Should we migrate to S/4HANA?

The necessity of a proper SAP strategy and how to draft it

Introduction

According to SAP, S/4HANA, the latest SAP Business Suite software based on the in-memory SAP HANA technology, is the next big thing. With mainstream support for the ECC platform ending in 2027 and all the Core SAP products optimized or being optimized for the SAP HANA database, the question is not "if" your organization will transfer to the new system, but when and how.

That sounds like a fait accompli, with very little room for maneuver, but in the end it is still you who decides how you proceed with your SAP landscape. And it is the "when" and "how" that will be key to determining the success of your S/4HANA efforts and the value you will be able to obtain from S/4HANA. In addition, although there are potential benefits, significant investments are also required. It is likely that you will have to make this decision against a background of cost reduction and keeping your existing complex SAP environment running, which also requires you to continue your maintenance expenditure.

In short, there are sufficient reasons to not immediately start spending on a migration, but to instead consider these issues properly and determine your strategy first.

Throughout this document we use the term "SAP strategy" (instead of the wider term "IT/ERP strategy") in order to direct our focus on SAP users that are currently considering new developments within the SAP domain. The purpose of this document is not to provide an assessment of S/4HANA or to make a comparison between SAP and other ERP applications, but to discuss the importance of a proper SAP strategy and provide you with a practical step-by-step guide to drafting the strategy.

1. Why have an SAP strategy?

Internal and external developments, including new technologies such as SAP HANA, force your organization to review its SAP strategy. But what is actually involved here?

Basically, an SAP strategy is about the manner in which SAP and related technology are planned, implemented, deployed or used to help you to achieve your business objectives. Guidance comprises drafting a vision and making certain choices, followed by drafting a step-by-step plan with a business case, activities and resources to realize this strategy. When we translate "achieving your business objectives" in this context into "generating value for your organization," then an SAP strategy is primarily an issue of how to obtain value from your SAP investment.

The traditional way of looking at SAP strategy is pretty linear. SAP strategy follows your business strategy. Your organization drafts a business strategy resulting in functional demands for the supporting systems. You set up your SAP environment such that these demands are met. This allows you to execute your business processes and you get the management information you need. Put simply, the better SAP is at providing these, the more value you obtain from your SAP landscape. Increasing value is therefore mainly a case of improving how you address current issues and/or becoming more cost efficient. Standardizing processes and systems, integrating SAP systems, setting up solid master data management and reducing complexity are improvement activities that are based on this principle. Simplicity, improved efficiency and more meaningful data results in better outcomes and therefore more value.

But what if ERP and related technologies not only support your organization but also play a part in steering it? This more modern view assumes two-way traffic between your business and IT. Technological developments are occurring at a rapid pace, e.g. cloud, Big Data, social, mobile, analytics and the Internet of Things (IoT). IT can achieve a lot more now than it could 10 years ago.

People and devices are now increasingly linked and the amount of information potentially available to you from inside and outside your organization is also increasing. This data is also made available almost instantly, in near real-time. Therefore, in this context, value from ERP is obtained not only by providing the best possible support for your organization ("business pull") but also from the manner in which ERP can contribute to changing your organization ("technology push"). When you initiate a change by applying new technology related to your ERP environment, you open up the possibility of gaining a competitive advantage through new and faster insights, which enables you to make informed decisions in the changing market.

This approach is part of "digital" thinking, in which your business and technology are increasingly interwoven; in this approach, your SAP strategy is not only a consequence of, but also an input for, the business strategy. As a theme, "digital" is much broader than just your SAP system. And "digital strategy" is much broader than just "SAP strategy." However, the principle remains unchanged. Your SAP system, by using new technology, is able to integrate more deeply with other systems and data sources within and outside of your organization. This allows you to improve how you deal with current issues and provides an opportunity to do things differently – either in isolation (e.g. the impact on processes) or on a larger scale (e.g. the impact on your business model).

For now we will not go into detail on the broader "digital" theme or discuss what is involved in transforming organizations or setting up new business models. However, it is important that you ask yourself how ERP (and more specifically SAP HANA and S/4HANA) and related technology can add value to your business through providing support or guidance and evaluating whether there is a business case after weighing up the pros (benefits/ innovation) and cons (efforts/investments). For instance, migration to S/4HANA is a possible scenario, but it is also possible for you to obtain more value by achieving improvements in your existing SAP landscape.

2. S/4HANA summary

Back to S/4HANA and the underlying HANA technology. S/4HANA is SAP's new business suite software based on in-memory HANA database technology and positioned as the core of the "digital enterprise." In this respect, "digital" refers to the previously mentioned interweaving of business and IT, whereby IT is not only supports but can also guide your organization.

S/4HANA provides a collaborative platform that enables you to use your core ERP in combination with cloud-based applications in order to interact and integrate with external parties such as customers (such as C/4HANA) and suppliers (such as Ariba). It also supports a range of user interfaces (including SAP Fiori) and provides the possibility to link your machines and IoT (e.g. through HANA Cloud Platform). These cloud applications are not required for S/4HANA and can also be used in combination with your existing ECC environment. However, S/4HANA contributes a dedicated platform to integrate and interact, thus providing a hybrid enterprise-wide solution.

The starting-point of S/4HANA is the underlying in-memory database and the possibilities that this technology offers for a different method of storing, processing and using data in transactions and reports (OLTP and OLAP).

A key characteristic is that data is stored as much as possible at one location and that there are no separate copies for various purposes such as multiple index tables in the existing Finance module, redundant data in ERP and data warehousing. Storing the data in one location not only saves storage space; but also provides a "single source of truth," thereby reducing the risk of data inconsistency.

Because of the HANA in-memory technology, your data can be used in near real-time, e.g. running a real-time MRP run or performing real-time simulations in Finance.

The existing SAP Business Suite (ECC, CRM, SRM, SCM, PLM) can also be used in combination with a HANA database in order to achieve part of the intended benefits of in-memory. The Business Suite, however, was developed for a diversity of databases and therefore it does not specifically utilize the possibilities of HANA and the HANA data model. On the other hand, S/4HANA was developed to be used with HANA (such as performing aggregations and calculations on a database level instead of the application itself), thereby leveraging more benefits from HANA technology.
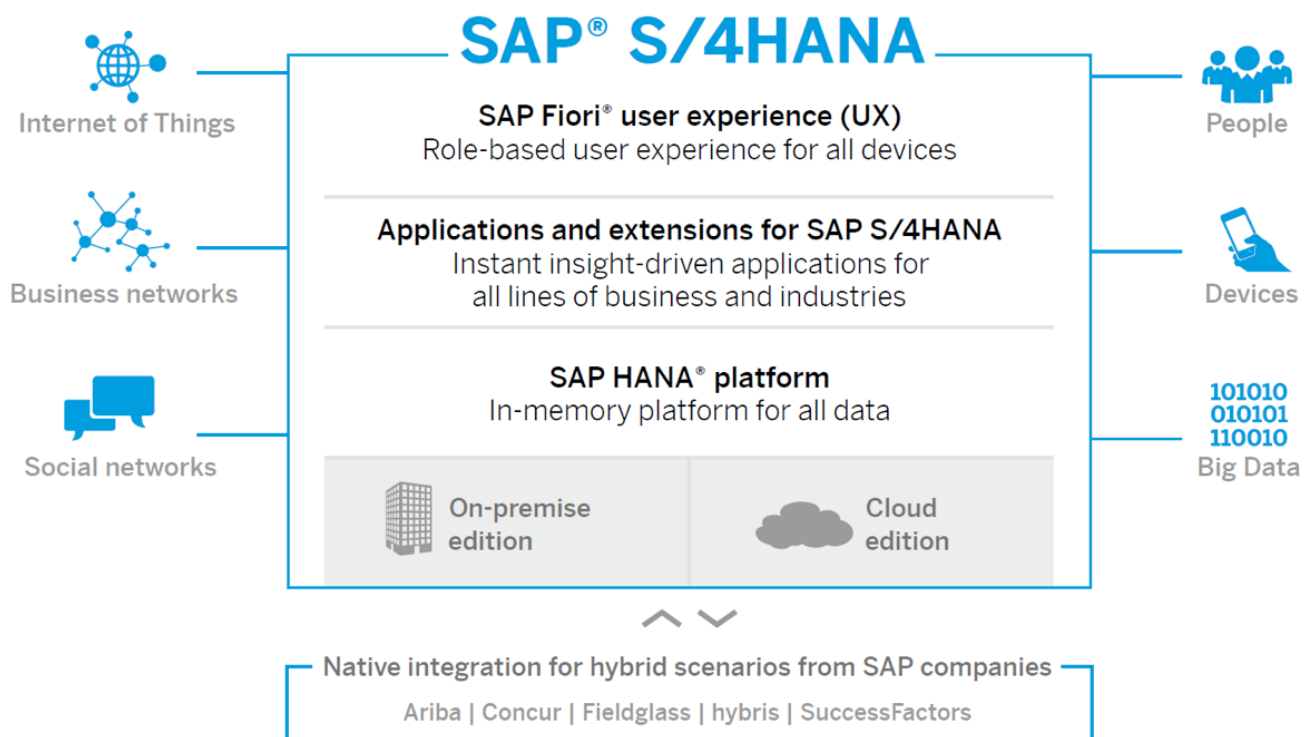
Figure 1: S/4HANA as "digital core" (source: SAP)

The first module that was converted to S/4HANA was SAP FICO, which was later renamed and optimized as S/4HANA Finance. Because S/4HANA Finance was made available as an add-on to the "Suite on HANA," many organizations started their S/4HANA initiatives using this model. Organizations also opted for a "Central Finance" model, whereby one SAP S/4HANA system acts as the central SAP system. The transactional and financial data from linked systems are transferred in real-time to S/4HANA, where reports can be executed in real-time, including drill-down to original systems.

Today, many of the SAP Business Suite's functionalities are available in S/4HANA. Whether they are optimized are not, these functionalities and industry solutions are made compatible for the HANA database, thus paving a roadmap for future S/4HANA optimization.

S/4HANA is currently available as an on-premise deployment or as a cloud solution through a managed private cloud or a public cloud. As of now, we see that the on-premise solution is usually deployed, and the managed private cloud solution less so. This seems to be mainly due to the fact that the public cloud solutions are not fully developed. In addition, many organizations value the flexibility of customization that can be performed and managed through on-premise or private clouds.

SAP has produced extensive S/4HANA documents explaining the possibilities afforded by using S/4 HANA. It is widely accepted that S/4HANA technology enables faster data processing. With S/4 HANA on an in-memory platform, the integrated ERP provides more efficient processes, better and quicker insights, improved interaction and enhanced user experiences for customers and suppliers through SAP Fiori. Please refer to the frame on this page for some examples. In the end, it is about you determining the possible benefits yourself by considering your own business and IT context. This step is central to your SAP strategy and is outlined in greater detail later in this document.

The FINANCIAL function is shifting from its traditional focus on transactional processes and retrospective reports to focusing on financial performance and prospective management insights. Financial back-office processes and period closings are increasingly seen as standard activities that have to be got right first time and are highly automated. This has to be supported by a high-quality, standardized ERP system with minimal complexity. This change is mainly made possible by using the latest technology in the areas of data analytics, in-memory computing (such as SAP HANA and S/4HANA) and various digital technologies such as the cloud, mobile and Robotics Process Automation (RPA).

The CRM function is rapidly changing mainly because of the latest technological developments. Traditional CRM processes and technologies have been focused on improving the efficiency of operational processes for sales, marketing and customer service users. In future CRM environments, these will be basic activities that are expected out of the box. At present, the focus is on providing better service through improved user experience and supporting the customer during their search for a product or service. Additionally, the focus is also on providing insights into CRM data for a wide group of users both inside and outside of the organization. These developments are made possible by improved functionality, integration of CRM applications and the application of new digital technologies such as in-memory computing (e.g. SAP HANA, the cloud, mobile and the connection to the Internet of Things) through the merging of structured and unstructured data.

The focus of the modern SUPPLY CHAIN function is on developing new methods to further streamline, simplify and integrate processes, as well as providing better and real-time insight into the entire supply chain for both the internal and external users, e.g. suppliers. In order to achieve this, the technology has to be integrated into the supply chain model, through e.g. in-memory computing (such as SAP HANA), cloud, mobile and integration with business networks (such as Ariba). Typical examples of developments in the supply chain are improved real-time MRP, real-time insights on stock levels and automated shipping and tracking.

A lot is changing in the field of MANUFACTURING and MAINTENANCE. These changes are driven by new technology within the manufacturing sector (e.g. 3D printing) as well as the underlying manufacturing and maintenance processes. Typical examples show that increased productivity and better control can be achieved by 1) using data analytics for predictive maintenance, 2) using the Internet of Things (IoT) to obtain automated messages when something is broken, or 3) obtaining production data and using in-memory computing (such as SAP HANA) to generate real-time production updates.

Figure 2: Examples of developments in various functional domains

3. Migration to S/4HANA and overview of options

Before we move on to the step-by-step plan for drafting your SAP strategy, we summarize the options available to migrate to S/4HANA.

Let's assume you currently have one or more SAP (or non-SAP) systems and you are considering migrating to S/4HANA. What possibilities will this migration bring? In principle the options are simple.

As a starting point, let's assume that you have one SAP system and you want to migrate to S/4HANA. You can transfer your existing SAP system to S/4HANA (brownfield) or you can start with a completely new S/4HANA implementation (greenfield). See figures 3a and 3b for this scenario.

If you have multiple SAP (and/or non-SAP) systems, this adds another dimension, i.e. whether you want to use the migration to consolidate multiple systems. If you do not want to consolidate, you can transfer the systems one by

one to S/4HANA. This is comparable to a single migration executed multiple times. You could also opt to add the "Central Finance" solution for further integration of your financial processes. This Central Finance solution will be available in one of the converted systems, or you could add a S/4HANA system specifically for Central Finance functionalities. See figures 4a and 4b for this scenario.
If you want to consolidate multiple systems, referred to by SAP as a "Landscape Transformation," the question of what the foundation of the new S/4HANA environment will be remains: will you use an existing SAP system (brownfield) or a new SAP system (greenfield). In the case of an existing SAP system, you need to upgrade that particular SAP system and then add the other systems one by one; see figure 5a for this scenario. If you are starting with a new SAP system, you will have to first set up your new S/4HANA environment, after which you can start adding your existing systems one by one; see figure 5b for this scenario. Because your systems are now consolidated, Central Finance does not apply.

Figure 3a: Brownfield migration – Upgrade existing system
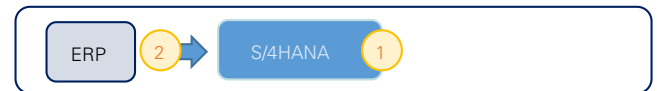

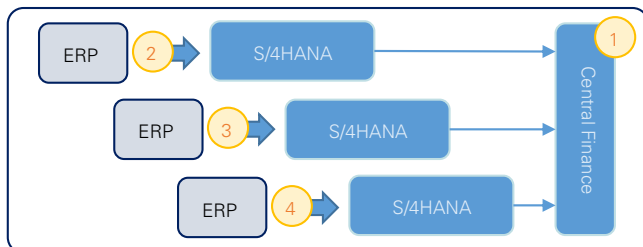Figure 3b: Greenfield migration – New system, followed by data-migration

Figure 4a: Separate brownfield systems + Central Finance (optional)
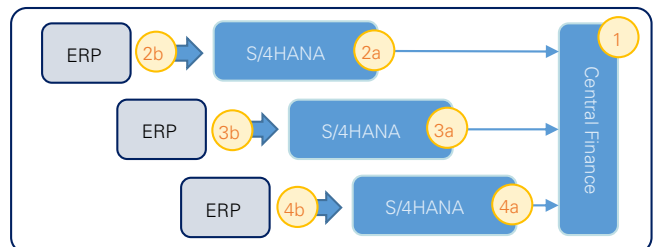

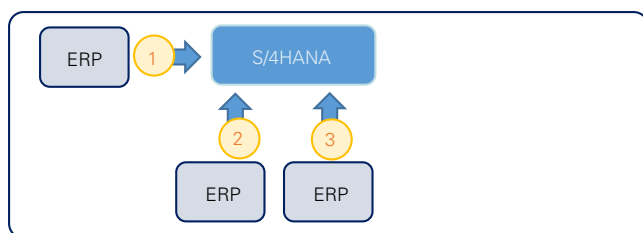Figure 4b: Separate greenfield systems + Central Finance (optional)
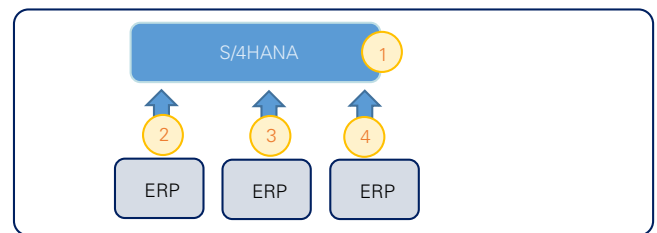

Figure 5a: Brownfield consolidation

Figure 5b: Greenfield consolidation

Until now we have assumed a direct migration from "Suite on AnyDB" to S/4 HANA. Another option is to keep your existing SAP Business Suite (support continues until 2027) and only migrate your database to HANA, thereby resulting in a "Business Suite on HANA" solution. This will provide some of the benefits of HANA without transferring to S/4HANA. Until 2015, this was the only option as S/4 HANA was not available then.

With your "Business suite on HANA" you will have the same options to migrate to S/4HANA as described earlier. However, based on the current speed with which the S/4HANA solution is developing, we view the migration to "Suite on HANA" as an increasingly less likely intermediate step. Therefore, the options are simple, but making choices and the migration itself will not be. You need to consider this when you determine your SAP strategy.

4. A practical guide for your SAP strategy

An SAP strategy is therefore about how you can obtain more value from your existing and future SAP landscape, and about making choices and developing a step-by-step plan to achieve this. You now know roughly what S/4HANA is and what the possible migration options are. So, what's next?

The adjacent figure presents a practical guide for how to arrive at your SAP strategy. The figure is based on our KPMG "Value Delivery Framework" (VDF), a practical model in which (as indicated by the name) realizing value is the central theme. Realizing value also means executing changes, from both a business perspective (e.g. a different business model or improving processes) and an IT perspective (e.g. adopting new technology such as S/4HANA). The model provides a framework for

executing these changes in a structured manner; even more importantly, it also enables you to make well-considered choices beforehand.

We present eight steps, which are divided into "strategy" and "roadmap." The other steps in the model relate to the implementation itself and monitoring after go-live. Because of the set scope of this document we have not detailed these steps.

The model is not SAP-specific but can be widely applied to ERP and IT; however, for the remainder of this document we will focus on SAP. Should you require further information on the complete VDF model and possible applications, please do not hesitate to contact us.

The steps mentioned assume a certain order, although within each phase (depending to some extent on the complexity of the analysis) it is often possible to execute issues in parallel. As an example, during the business and IT assessment, when discussing the current situation and concerns, you will also be considering the possible opportunities S/4HANA offers to solve these.

In addition, you will draft the business case in headlines first and will gradually add details. It is therefore important that you ensure that all steps are addressed while you determine your strategy. On the following pages we will discuss the steps of the model and mention some items of attention.
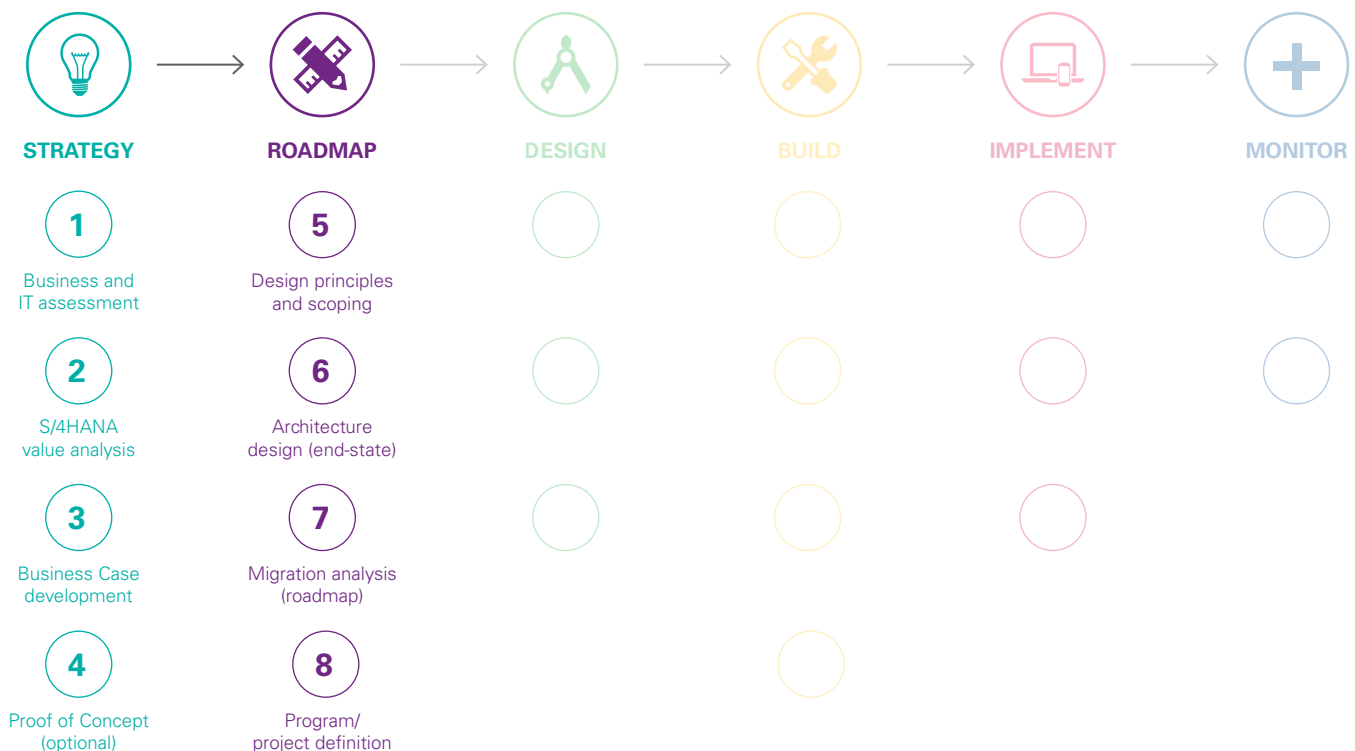

STRATEGY

1 — Business and IT assessment

2 — S/4HANA value analysis

3 — Business Case development

4 — Proof of Concept (optional)

ROADMAP

5 — Design principles and scoping

6 — Architecture design (end-state)

7 — Migration analysis (roadmap)

8 — Program/ project definition

DESIGN

BUILD

IMPLEMENT

MONITOR

Figure 6: The KPMG Value Delivery Framework with highlighted phases "Strategy" and "Roadmap"

Strategy

1	2	3	4
Business and IT assessment	S/4HANA value analysis	Business Case development	Proof of Concept (optional)

The strategy steps are focused on fully understanding your current business and IT – what the value of the migration for your organization could be and whether there is a related business case. Therefore, this is about the "what" question. If required, a Proof of Concept could also be included.

Determining your SAP strategy is about making choices that will have a long-term impact; choices that not only affect your IT but will also cause changes for themes such as organization, people, processes, data, management information, etc. A migration to S/4HANA is therefore mainly a business-driven project that has

many technological components. Therefore, while determining the strategy, the business and IT, both at C-level and operational, have to be involved at every step.

Because of the long-term impact and the various issues you will address when determining your SAP strategy, it is best to perform these activities in a structured manner with a specific team, plan and budget. You also need to ensure clear reporting of your decision-making. This will make it easier to integrate the strategy design and its results into any other possible initiatives within your organization.

No improvement and/or change will be achieved unless there is complete understanding of the current situation first, both from a business and IT perspective. Furthermore, additional value from your SAP landscape is not only obtained by improving what you already do today, but also by supporting and facilitating future developments within and around your organization. Therefore, you need to look forward. Below we present some insights to consider when executing the business and IT assessment.

Understand the current business context
Ensure that you understand the current business strategy, the current operating model (i.e. the current setup of the processes, organization, information, etc.) and the manner in which SAP currently supports this. Understand what is working well, but also what is not and why. Analyzing these causes often already provides concrete ideas to initiate improvements and identifies issues where S/4HANA could play a part.

In this respect it is useful to discuss all functional domains and associated processes (such as procurement, sales, finance, production, customer service, marketing), which will make clear what domains are perceived as "distinctive" and what as "standard' (whether or not these have actually

been set up). This insight will be an input for further choices on how SAP can support these processes (and other applications). In principle, your standard back-office processes will be covered by ERP, but processes that have to be distinctive, e.g. front-office customer interactions, will possibly have to use best-of-breed (cloud) additions to your SAP system.

Understand the current SAP/IT context
Compile an overview of your existing SAP/IT landscape to show which SAP systems and other applications you have that are (or are not) currently connected with SAP. Make sure to also detail the versions, number of users and current license contracts. This will give you an understanding of the need to transfer to a new system, but also the extent to which you are still "stuck" with your current systems.

Although SAP is centrally located in your IT landscape, IT is more than just SAP. Therefore you should also understand the overall IT strategy, including the architectural decisions made (e.g. using the cloud). Understand the outlines of the underlying infrastructure and obtain insight into the current IT management costs. This is also an input for the business case.
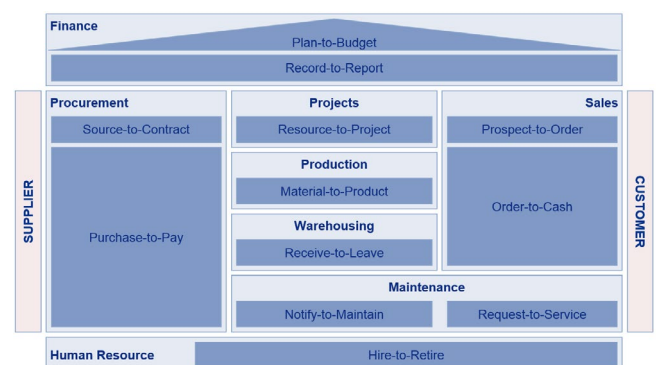

Figure 7: Example overview of functional domains

Identify business and SAP complexity

We see much of the potential value of ERP being lost in everyday practice, due to unnecessary complexity. This often starts with too much complexity within your organization, e.g. too many different processes, products, etc., which results in unnecessary complexity in your SAP system, e.g. too many customized solutions and versions in your SAP setup. As a result, processes become less efficient and management information less reliable. In addition, SAP systems become more difficult to manage, which makes it more difficult to react to changes.

The basic principle that potential value gets lost due to unnecessary complexity also applies to S/4HANA. Without reducing unnecessary complexity, you will not be able to fully utilize the potential of S/4HANA.

The "KPMG SAP Complexity Reduction" methodology is a good tool to show the complexity of processes and setups based on data from your SAP system.

Without reducing unnecessary complexity you will not be able to fully utilize S/4HANA's potential.
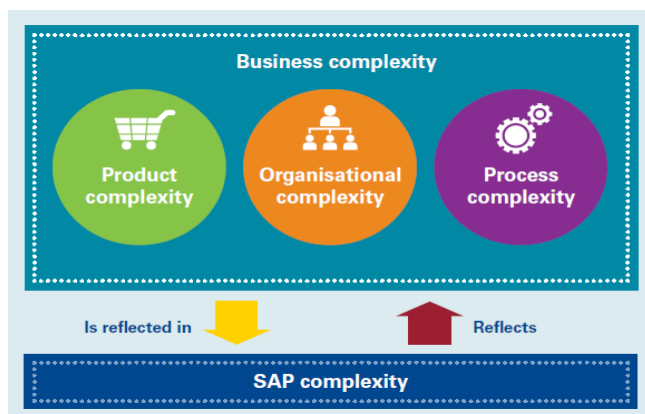

Figure 8: The relationship between business complexity and SAP complexity

The level of complexity not only shows where to find potential improvements, but is also an important starting point when you want to determine whether you should start with a greenfield or brownfield scenario and which SAP system (in the case of consolidation) is most suitable.

Focus on management information and analytics

Do not only consider an efficient setup and execution of transactional processes; also focus on obtaining management information and using analytics. And consider the business analytics landscape that exists in your organization. Do you receive the information that you need and is that information timely and accurate? Are you able to perform the analyses that you need? Supplying better and faster information and insights is one of the key benefits of S/4HANA and HANA.

Management information and analytics are areas in which S/4HANA and HANA could possibly provide guidance rather than just support. Therefore it is good to know that your current issues could be solved through improved information and insights and by realizing potential future developments.

Look at future developments

It is tempting to just consider your current status (requirements, concerns, etc.) as a starting point to assess how S/4HANA could provide a solution. However, It is also worth considering whether implementing changes in SAP could support future developments both within and outside of your organization.

Changing your SAP landscape is something you do for the long term. Therefore, do not forget to look forward to developments that may impact the choices you make.

You may have noticed that the aforementioned activities are not specifically about S/4HANA. This is because we have focused on assessing the current situation and looking at possible future developments. Because you have not limited yourself to the potential offered by a specific solution, you have laid a solid foundation on which to base your improvement activities and changes to your organization and IT. During the next steps, however, we will look at the specific possibilities of S/4HANA and how S/4HANA could generate value.

Strategy

1	2	3	4
Business and IT assessment	S/4HANA value analysis	Business Case development	Proof of Concept (optional)

You now have obtained an insight into your current business and IT, the manner in which SAP is used, what is going well and where there is room for improvement. You also understand the likely developments in and around your organization and whether your existing SAP landscape will be able to support or even actively contribute to this. During this step you will analyze what added value S/4HANA could provide your organization. Below we provide some insights to consider when you execute this analysis.

Make the S/4HANA analysis sufficiently concrete

As mentioned previously, the benefits (as intended by SAP) of S/4HANA are numerous and S/4HANA (and underlying HANA technology) is designed to form a "digital core" of the "digital enterprise." However, the intended benefits only add value when they contribute to your business and IT context. The benefits of real-time MRP and forecasting will be assessed differently in a retail environment than in the health sector. So do not look only at everything that is possible, but also at what you actually need and what your organization's financial and operational value drivers are, both at present and for the future. Use the results of the business and IT assessment for this purpose.

A useful tool is to link the analysis to the components of your management model. What could S/4 HANA mean for my processes, for my users, for my management information, for my delivery model (central vs. local activities, shared services, etc.) for my IT environment, etc.? Also, it is important to bear in mind that the transition to S/4HANA should primarily be a business-driven project.

Use available tools for value analysis

Various tools are available to help you with your value analysis. Think of the "Business Scenario Recommendation" (BSR) report from SAP and the SAP "Value Lifecycle Manager" (SAP VLM). The BSR report is run as a program on your existing SAP system and analyses the statistics from completed SAP transactions to determine the potential benefits to be gained from S/4HANA. SAP VLM is a comprehensive questionnaire which uses a significant amount of qualitative and quantitative information to provide an overview of the potential benefits of S/4HANA. KPMG offers KPMG "Facts 2-Value" (F2V) and asset-based solutions (SOFY), among others, to provide insights into the improvement potential of your processes and SAP landscape.

Understand the S/4HANA status for your industry

S/4HANA is a relatively new SAP product. Initially released in February 2015, S/4HANA is now receiving major upgrade on an at least annual basis. However, we need to keep in mind that S/4HANA remains a product under development for industry solutions. Therefore, please check first whether there are issues that you expect S/4HANA to solve that may only become available at a later date, and how your organization views early adoption of new technologies and innovations. On the SAP website various inputs for the S/4HANA roadmap are provided to assess existing and future functionality.

Figure 9: Business Scenario Recommendation report(source: SAP)

Look beyond S/4HANA

We started this document with the question of if, when and how you should migrate to S/4HANA. Meanwhile, it has become clear that the issue is really not just about S/4HANA but your broader SAP and IT landscape and defining the role of S/4HANA within that landscape. Therefore, you should look also for the potential benefits of using e.g. Ariba or similar cloud applications from other vendors, such as Coupa. And you should also look at how SAP HANA can play a role in your business intelligence and analytics landscape. In the end, S/4HANA will "only" be the core of your SAP landscape in which the more standardized (back-office) processes, such as finance and manufacturing, are housed.

The distinctive processes, such as customer interactions, will increasingly move to cloud-based applications around your S/4HANA core. The purpose in this respect is not primary transaction processing but ultimately the manner in which you interact with your customers. The same applies to interactions with your suppliers via cloud-based sourcing applications. In the short term you might come to the conclusion that an investment in the surrounding cloud systems, which work well together with ECC Business Suite, will add value without the need to immediately migrate to S/4HANA.

Another starting point for S/4HANA is the capability of upgrading your SAP landscape and developing your own apps for SAP Fiori/UI5 through the HANA Cloud Platform. Alternatively, you can interconnect applications so that information is available in several places.

During the roadmap phase you will define in more detail what your final process and IT landscape will look like. At this point, identifying the potential benefits of the various options should be your main concern.

Standardization, simplification and integration

You started your SAP strategy analysis with a focus on S/4HANA. However, the business and IT assessments often provide good insights into the current diversity, complexity and variety of your processes and IT. Also consider what additional value can be obtained from your existing SAP landscape by further reducing these issues, standardizing more, simplifying and integrating. Whether you execute these actions prior to, concurrently with or after your S/4HANA migration will be part of the roadmap analysis.

Figure 10: S/4HANA as the "digital core" of the application landscape (source: SAP). This figure presents an example landscape comprised of SAP products. The cloud applications mentioned could also be provided by other suppliers, e.g. Coupa or Basware for your purchasing and invoicing processes.

Strategy

1	2	3	4
Business and IT assessment	S/4HANA value analysis	Business Case development	Proof of Concept (optional)

You now know how S/4HANA might benefit your organization. And it is possible that there are more potential benefits and possibilities than would be strictly necessary or feasible for your organization. In this respect, a value analysis is sometimes a bit like a kid in a candy store. Therefore, it is important to draft a good business case where you offset the additional value of S/4HANA against the required investment and the effort it takes to migrate to S/4HANA. In practice, for example, we see that the licensing costs of S/4HANA and HANA are still a hurdle for many organizations. Having created the business case, you are in a position to make a well-considered decision about the following steps.

Qualitative and quantitative

A business case is about more than just making a list of figures and deciding that when the total is positive we can start. Especially when replacing ERP systems, particularly older systems, a simple statement such as "does not support the business, now or in the future" could be a sufficient reason to move to a new system or upgrade an existing system. When analyzing costs and efforts, the same applies. "Does not fit the project schedule" or "too big a risk to carry out" can be a reason not to move. Therefore, it is important to make sure that at least the qualitative components are understood.

In addition, it is also true that an ERP is very well suited for a quantitative business case because it usually involves known business processes and the cost is comprised of clear and distinct components. It is entirely possible to link improvement potentials, including baseline figures.

In terms of the benefits, you should consider e.g. FTE savings through more efficient processes or a reduction of the working capital required. And with regard to costs, the points to consider are project costs for the realization of S/4HANA, purchases of other hardware, periodical license fees, etc.

Based on our experience of drafting business cases, we have developed various templates which we can make available to you to help you document the potential benefits (e.g. via value maps) and identify and compare costs (e.g. through standard cost breakdown structures).
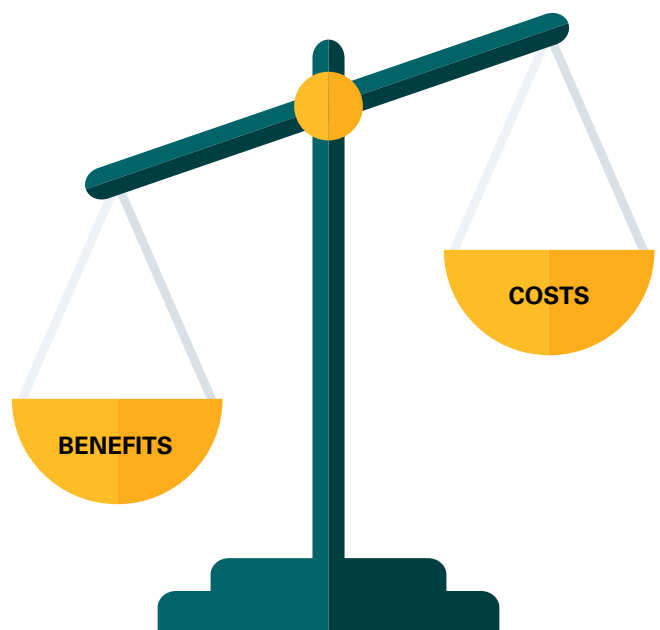
Build the business case step by step

Drafting a proper business case is not a one-off activity, and in this phase in particular you will not be able to assess all the relevant factors in sufficient detail. In particular, the cost estimates and efforts are very much dependent on the outcomes of the roadmap phase. Nevertheless, it is entirely possible to perform a high-level estimate already at this

stage, while subsequently continuing to update the business case as more information becomes available. The objective for now is to establish whether or not there is a basis for initiating the roadmap phase. You should make this decision based on both qualitative and quantitative grounds.

Stakeholder management

In addition to comparing the pros and cons, the business case, or rather the whole strategy phase, is about defining a "case for change" even more than it is about the finances involved. In practice, we frequently see cases where there is sufficient reason to start a project such as a S/4HANA migration, but no project is initiated because not all stakeholders were sufficiently involved in the analysis. This happens in particular when the analysis is performed by the IT function, and the business and C-level are not involved at that time or are only involved to a limited extent. In this scenario, qualitative reasons often determine whether or not parties agree. Remember that changing an ERP environment and the related processes and organization is a complex, often intrusive activity that by its nature faces relatively high resistance.

In addition to the business case activities, the KPMG Value Delivery Framework pays specific attention to the themes of "benefits management" and "change management." These are cross-currents in the frame because they apply to all phases and show you in a structured way for each phase what should be done to introduce your initiatives successfully and to monitor whether the desired benefits are achieved.

Executing a Proof of Concept (PoC) can be a useful activity that helps to obtain more experience with new technology and applications (such as S/4HANA and HANA) within the context of your own business and IT without the need to immediately execute a full migration.

Through the Proof of Concept your organization can already experience HANA

Demo, test case or pilot

Proof of Concept is a broad term and therefore we see in practice that it is interpreted differently. To provide some clarity here we shall distinguish between 1) a demo, 2) a test case and 3) a pilot.

The demo is designed to help you understand what the new application (such as SAP HANA and S/4HANA) can do for your organization. The setup is relatively generic and mainly focused on understanding the possibilities offered by S/4HANA.

The test case is designed to further validate your business case based on the benefits you have determined during the value analysis. Although this is a variation on the demo, it is conducted in the context of your own business and IT, using your own processes and data. Through the test case, you can also already receive some concrete experience.

The pilot is intended primarily to start using a phased approach, in order to gain experience without performing a full migration. The pilot is often the first step in your migration roadmap, followed by a gradual further rollout.

Use own processes and data

Unless it is a demo, it is important that a PoC is executed as much as possible within the context of your own business and IT. The claimed benefits of HANA and S/4HANA and related benchmarks are in general based on standard processes in a standard SAP environment, but this does not always apply in your organization.

Executing a PoC using an organization's own processes and data is not always carried out easily. In practice, we therefore mainly see PoCs in the form of a demo and/or a pilot. The pilot is often the first step of a larger migration. And in the case of a pilot, the choice to migrate has already been made.

The larger the PoC that is set up, the more it can be regarded as a litmus test of the new solution for your business. In this case it seems better to first execute the roadmap activities to ensure that the PoC really fits your SAP strategy.

Roadmap

By now you know in detail how S/4HANA and HANA technology can provide value to your organization and you are convinced that you have a business case to get started. The activities in the roadmap phase are focused on determining how you are going to do this, including setting up a program and a first concrete project. The roadmap therefore especially addresses the "how" and "when" questions.

Just like during the strategy phase, it is best to perform these activities in a structured manner with a team, schedule and budget. In practice, the strategy and roadmap phase are executed jointly, of course, in order to ensure commitment from both the business and IT functions.

Should you have come to the conclusion that for now you will proceed with S/4HANA and HANA, it may still make sense to perform a roadmap exercise. Perhaps you will see opportunities in the current SAP environment to further standardize, simplify or integrate. These types of initiatives are also change projects which should therefore be conducted in a structured manner. The KPMG Value Delivery Framework offers the tools for this.

We address the items of attention per phase, starting with the design principles and scope.

The roadmap phase is actually already the first step towards the design phase. After all, you are looking at the intended process model and associated SAP architecture. Although you only do this in headlines, it is already the basis for further migration activities.

Therefore it is important to draft your design principles early in the process, insofar as they do not already exist, as they give direction to the subsequent choices you make around S/4HANA and HANA.

Define technology principles

Start with the technology principles. To a large extent, these will possibly be determined in your current IT strategy. Typical themes are using cloud vs. on-premise, design principles, any preferences in terms of suppliers, applying innovation and early adoption vs. proven software, etc.

Certainly in terms of S/4HANA you will have to deal with design principles that were not applicable or were much less applicable in the SAP Business Suite. For example, you will need to think about agreements you make around developing apps within Fiori and the way these handle data. In what circumstances and when will you have to develop an add-on for S/4HANA and for the HANA cloud platform?

This type of design principle is also important for security as well as risk and controls. While topics such as authorizations, segregation of duties, application controls and the quality of your tailor-made solutions were previously mainly the domain of the ERP, transaction processing and information retrieval will increasingly take place in (in-house developed) apps outside S/4HANA through the HANA cloud platform.

Look beyond SAP and IT

A S/4HANA migration not only affects technology (SAP and IT) but also the components of your management model such as processes, people, data and management information. This means that you have to think ahead of time about how you will perform data migration. You will need to define clear principles which the S/4HANA migration and all related changes will then have to comply with.

Ensure a clear scope

Depending on the outcomes of the strategy phase, you may not want to migrate everything to S/4HANA. You may wish to disregard certain functional areas such as HR or specific (non-) SAP systems that are not yet included in further analyses. The scoping is mainly focused on keeping your S/4HANA initiatives manageable and organized.

It is wise to record your desired future process and SAP landscape in a architecture design. This design is an important input for both the migration analysis and, later, the detailed design of your S/4HANA environment. Determining and defining your future process and IT architecture is often performed in parallel with the migration analysis because they influence each other. Here are some things to bear in mind.

S/4HANA in a wider context
An architectural design in headlines is quite sufficient at this stage, but look further than just S/4HANA and the processes it supports. Because of the central role of S/4HANA in your SAP landscape, you also want to know how this relates to other applications in your SAP landscape (like the aforementioned add-ons such as Ariba and SuccessFactors; see S/4HANA value analysis).

With architecture, do not just consider transaction processing but also look at the applications for analytics and reporting. Outline how the underlying infrastructure will be rebuilt, including the location of the HANA cloud platform and the HANA application database.

Select the required level of detail
Show in the architectural design which process areas will be supported by what applications. To document the process areas you can use a process house as shown in the "Business and IT assessment" section. You can show the supporting (SAP) applications for each area.

The level of detail for process documentation (domains, processes, sub processes, activities) is still not very detailed at this stage. In practice, we usually work at the level of "functional domains" and "processes." If the strategy phase already shows that standardization of your process landscape will perhaps occur, it may now be appropriate to also look at sub processes and activities.
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Determine the deployment model
Partially depending on your design principles, you also need to determine whether you will opt for S/4HANA on-premise or a cloud version. In practice we see that on-premise is the main choice, and when cloud is selected, it mostly refers to managed private clouds. So far the public cloud version has not really taken off. Furthermore, there is much talk about hybrid solutions where your on-premise version of S/4HANA is combined with the aforementioned cloud-based applications such as Hybris, Ariba, etc.

Best of breed assessment
The basic principle is that you use S/4HANA as the core of your SAP landscape. Due to the open nature of the HANA cloud platform, you can take the opportunity to assess the best of breed applications that you could use in addition to S/4HANA. SAP has its own ecosystem including Ariba, SuccessFactors and Hybris but you can of course also opt for non-SAP products such as Coupa or Salesforce.

Scenario analysis at integration
If you plan to merge multiple systems during your S/4HANA migration, then there are other choices to make that are separate from S/4HANA. This concerns in particular the degree of integration in parts of your governance model (processes, organization, etc.). In practice, we often perform a scenario analysis in order to choose the best model of integration, such as unified, coordinated, differentiated. Within each model integration is dealt with differently. This choice also impacts on the final migration itself.

You know where you want to head in the coming years with your SAP landscape and the role S/4HANA and HANA will play within that. Therefore it is important to determine how you will realize the transition from your existing SAP ECC (or other versions) to S/4HANA. In addition, for more complex SAP environments it is often the case that the final state is not reached at once, but in several steps. A multi-phase plan is required for this purpose.

Greenfield or brownfield?

When you are to planning migrate one or more (SAP) systems to S/4HANA, one of the key choices you have to make is whether it is going to be a greenfield or a brownfield approach. You will need to weigh up the pros and cons of both variants.

A key advantage of greenfield migration is that you start with a new system and therefore have more flexibility to introduce themes such as standardization and simplification in addition to the migration itself. The advantage of brownfield is generally a shorter runtime and less disruption of operational activities because you keep closer to the current way of working. Especially if you opt for consolidation of multiple systems, greenfield will require a higher effort because of the "template frame of mind." In practice, the choice of greenfield will very much depend on the current complexity of your SAP setup and the associated choices around desired improvements.

Separate systems or consolidation

A second important choice is to consolidate your SAP and/or non-SAP systems. Your analyses so far should have provided the necessary insight into whether consolidation should be part of the business case for your organization. After migrating and consolidating the systems, the landscape has at least been made less complex due to the decline in the number of systems and interfaces. Also, integration is something which you could combine with initiatives around further standardization and simplification.

At the same time, a migration combined with consolidation is a significantly larger project than migrating individual systems, mainly due to the fact that you are not only dealing with technique but also with how underlying processes, data, etc. work. This makes greater disruption of the current operation very likely and you will also face additional issues such as rights within the consolidated system. When you merge multiple systems, non-SAP systems may be

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included. This also means additional effort and complexity around data migration. Integrating multiple systems is a complex task.

S/4HANA or Suite on HANA

Of course, you do not have to immediately transfer to S/4HANA; you can also first gain experience with S/4HANA on your own ECC environment through Suite on HANA, with or without an S/4HANA Finance addition. See also Chapter 2. Until recently, this was a common scenario since S/4HANA did not yet exist and organizations wanted to utilize the benefits of HANA. With the recent S/4HANA developments we expect the Suite on HANA to become a less likely choice for organizations.

Ensure clear phasing

An S/4HANA migration will not always be a big bang solution to arrive at the desired end state. Especially when merging multiple (non-) SAP systems, a multi-phase plan that gradually works towards the new environment usually follows .

Also, based on the idea behind the Proof of Concept and especially the pilot, "becoming accustomed to HANA" through a phased approach is often a logical step in practice.

After the roadmap decisions are taken, it is important to translate the results into a concrete project that is to be initiated. And in the case of something more substantial, this means a program with multiple projects.

The objective of the program/project is based on your previous analyses of how you intend to create more value with S/4HANA. You also draft the final business case.

Move to actual migration
The activities in this step are not in themselves specific to S/4HANA but can be applied to every strategy and roadmap analysis. It is the final piece of the analysis and also the starting point for initiating the actual migration to S/4HANA.

In order to move to the migration itself, specific attention is given to the completion of the business case. This was drafted in the strategy phase and later detailed step by step. Using the results of the architecture design and the selected migration scenario, the final business case can be made, including the investment proposal.

With regard to setting up the project, the more generic items of attention to project and change management apply in particular. Perhaps the most important of these is to ensure that relevant stakeholders are involved with the project, both within the business, including C-level, and IT. Especially in case of a migration involving standardization, simplification and/or integration, many more decisions will need to be made during the project.

5. Conclusion

In this document we tried to provide you with a practical guide to determine your ERP strategy, with a focus on SAP users thinking of migrating to SAP HANA and S/4HANA. We realize that because of the scope of the document we could only discuss the headlines but were nevertheless able to bring a variety of issues forward, some of which are more general in relation to strategy and roadmap and others specific to S/4HANA, but all of which are relevant to your strategy.

You can always contact us if you have specific questions on strategy and S/4HANA, and also to discuss the broader issues around changing and improving processes and IT and how to realize more value from ERP and SAP.

KPMG Enterprise Applications, as part of KPMG's Consulting practice, is the link between business and IT and supports organizations with SAP implementations, optimizations and strategic issues with a focus on realizing value from your SAP investments. Using our experience and expertise in the field of SAP HANA and S/4HANA, KPMG can support you as a business integrator and/or system integrator. Central to our work is our excellent stakeholder management, integrated transformation approach, hands-on implementation expertise and project management and QA skills. Above all, KPMG is independent in our advice on costs, IT partners, ERP solutions and roadmaps.

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