



APPROACH TO BE TAKEN DURING SAP S/4HANA ASSESSMENT – A VIEWPOINT

Abstract

Enterprise platforms are meant to drive business growth and enable efficient execution of all core business processes. With globalization and advanced digitalization through social, mobile, big data, and IoT platforms, technology is redefining existing robust business networks. This is compelling organizations to transform into intelligent enterprises that focus on continuous innovation using scalable technological and digital platforms.

Until a few years ago, transformation was an uncommon approach for enterprises using SAP's ECC platform. Technological advancements for supporting digital transformation were limited and organizations relied heavily on product vendors for product innovation. In the last decade, organizations have begun looking for newer ways to gain efficiencies.

SAP S/4HANA is built on robust, efficient and advanced technology. It includes in-memory HANA database for real-time data processing. With capabilities like simplified data models, intelligent automation and flexible deployment options, it is driving SAP customers to consider IT and business transformation opportunities as part of the SAP S/4HANA adoption.

This paper highlights the technical and process assessment methodology, assessment components, activities, timelines, deliverables and key outcomes of an SAP S/4HANA adoption journey. It guides organizations on the due diligence activities towards initiating an S/4HANA roadmap. This paper does not include SAP S/4HANA capabilities, functionalities and other technical aspects.

Evolution of SAP S/4HANA

Over the last four decades, SAP has made great strides in enhancing its product features, architecture and platforms. SAP architecture has evolved from a single-tier (R/1) architecture that included presentation, application and database in one layer to a three-tiered (R/3) architecture to a complete business suite with switch functionality framework. The Netweaver platform further enhanced SAP's platform integration capabilities with web applications.

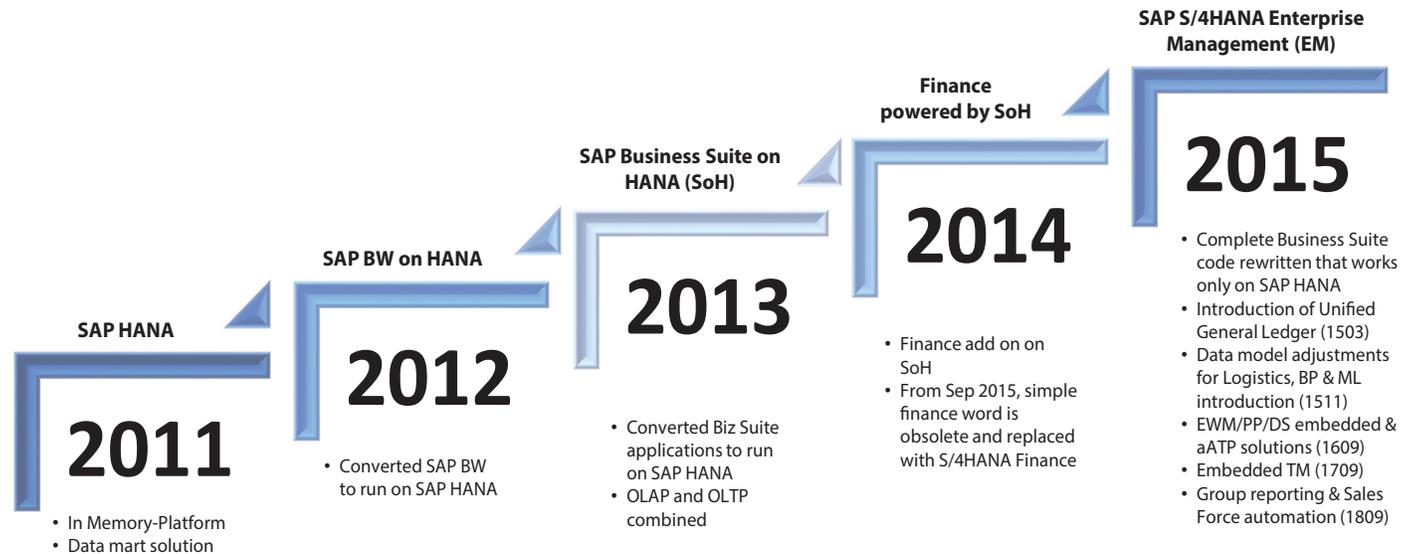


Fig 1: Evolution of SAP products, platforms and architecture

With technological evolution and rapid growth of SAP customers over the last 2 decades, customers' SAP landscape footprint grew considerably. Landscape complexity got further elevated due to mergers and divestitures, newer products (SAP and non-SAP) addition for managing specific business functions, multiple interfacing layers for communication and usage of custom developments. With these inherent challenges and the advent of SAP S/4HANA, Customer IT executives are in a dilemma over leveraging S/4HANA platform to embark on digital transformation. Some pertinent questions are:

- Can SAP S/4HANA be adopted like a technical upgrade project with no change in functionality?
- Should organizations migrate or convert data and functionality prior to or during adoption?
- Does SAP S/4HANA have new capabilities that can transform IT and business operations?
- What is the approach that my organization should take?
- What are the key areas to be considered during the transformation? And how should I be prepared for such a strategic transformation program?

SAP S/4HANA assessment is performed to address many queries, like above. Additionally, assessment also provides a clear direction on timelines, approach of the transformation and areas that need further preparation.

SAP S/4HANA platform can be adopted as a migration or transformation exercise. But before evaluating its assessment methodology, it is important to know the differences between SAP upgrade, migration and transformation. Understanding this will help define the right roadmap for IT and business transformation.

Upgrade Vs Migration Vs Transformation

SAP upgrade program is about moving the existing SAP environment to a newer version with no changes to the architecture. It involves adaptation of the existing code with the new version, fixing the bugs and testing of existing functionality. Conceptually, the upgrade involves minimal or no enhancements like new business functionalities. It does not incur any organizational change management effort. SAP S/4HANA adoption is not a technical upgrade program. For example, customers that used earlier versions of SAP (like R/3) tend to upgrade their environments to SAP ECC.

SAP S/4HANA migration program involves moving the existing SAP environment to S/4HANA where the architecture has been changed to a great extent. The existing business suite functionality, code and data is converted to suit the new SAP S/4HANA software without changing the existing business process design. Migration involves some organizational change management effort as customers must adopt mandatory technical, functional, architectural, process simplifications and innovation. It is also critical to identify and evaluate the impact of these mandatory and optional changes in functionality, which requires prerequisite technical assessments and execution of pre-projects.

SAP S/4HANA transformation is adopted by organizations as part of initiatives like digital transformation, system consolidation, business transformation and IT transformation. These programs involve either a complete redesign of

existing business processes using SAP S/4HANA capabilities or a selective adoption of innovation, reorganization, merging, deletion and conversion of existing organization elements as part of SAP S/4HANA adoption. Customers can use industry best practices, address pain points, harmonize operations and consolidate multiple SAP applications as part of the transformation activity. The methodology for the transformation program is unique and depends on the extent of redesign and innovation needed.

Migration and transformation adoption options have merits and impacts. Hence, customers need to understand certain key aspects before embarking on SAP S/4HANA and plan their roadmap accordingly. It is advised to plan the activities based on the outcome of the assessment.

The Migration and Transformation options are further categorized based on specific nomenclature by SAP.

Migration

1. HANA DB migration to enable SAP Business Suite to run on HANA (SoH)
 - Technical DB migration
 - Remediate code, test and cut over to new platform in one single downtime
 - No change management impact
2. Brownfield – System conversion
 - Convert SAP Business Suite with new SAP S/4HANA code line and HANA database
 - Perform prerequisite activities/projects

- Adopt mandatory innovations
- Remediate code, test and cut over to new platform in one single downtime
- Low-medium change management impact

Transformation

1. Greenfield (New) implementation
 - Reimplement SAP on new SAP S/4HANA software
 - Develop, configure business processes in new platform
 - Data migration from old/legacy systems might be required
 - Staggered cut overs possible
 - High change management impact
2. Hybrid/Shell based conversion
 - Selective data migration of existing environment by creating a shell and converting to SAP S/4HANA using SAP tools
 - Existing customizing could be completely (Shell) and partially (Mix and Match) reused
 - Organization structure deletion, reorganization, merging and data cleanup activities could be included
 - Vendor proprietary tools needed to perform migration
 - Low-medium change management impact

Methodology of SAP S/4HANA assessment

Scope and objectives

SAP has brought in significant amount of change in SAP S/4HANA Platform in the areas of technical (ABAP, Basis, Security, Archiving, Sizing) and functional (Mandatory functional adoptions, deprecations). Added to this, SAP has also

provided a strategic roadmap of many of its application components (SRM/SLC/CRM) which will be sunset in the future years. Hence, a holistic review and assessment of each of these components is absolutely necessary before embarking on SAP S/4HANA transformation roadmap.

It is extremely important for the customers to identify the stakeholders for

each of the areas. It is a common practice to have a partner who can conduct the assessment. The partner must understand the objectives, align with the overall vision of the organization and define a clear plan on the overall exercise.

The assessment should be planned with certain outcomes / objectives. They key objectives can broadly be listed as follows:



Fig 2: Objectives of SAP S/4HANA transformation program

2. Focus areas for the assessment

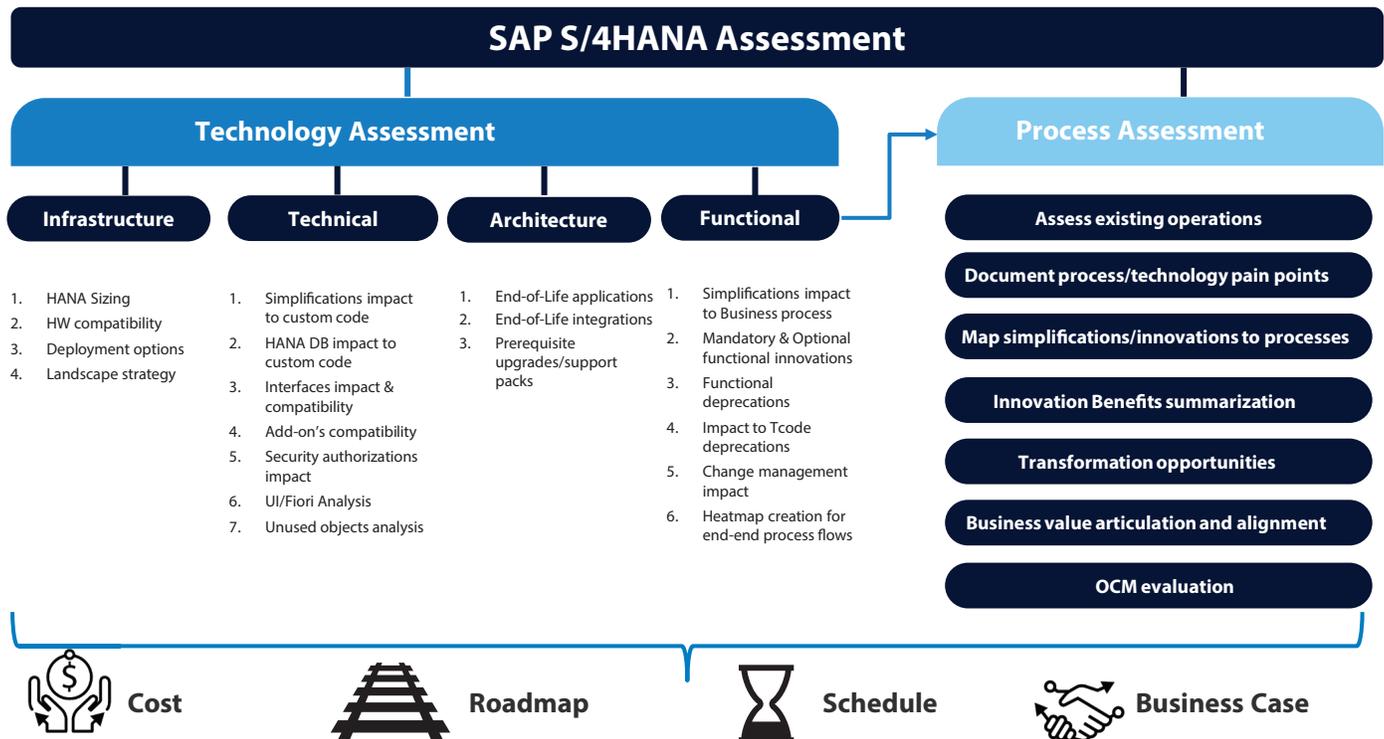


Fig 3: Focus areas for the SAP S/4 HANA assessment

2.A. SAP S/4HANA technology assessment

The technology assessment should focus on the following four key areas:

- **Infrastructure** – Organizations can choose from different deployment strategies like cloud or on-premises, hardware sizing, etc.
- **Technical** – This involves internal SAP areas like impact to the source code, security, database and object remediation
- **Architecture** – This includes reviewing the future/to-be IT landscape of the organization and how SAP S/4HANA can be integrated to add value. The goal should be to simplify the landscape, minimize integrations and inject efficiency.

- **Functional** – This is the most important area because the main reasons for transformation are standardization, simplification of processes, business process redesign, and adopting the

new functionalities of SAP S/4HANA. Customers must be fully aware of the business drivers of the transformation program before embarking on the functional assessment.

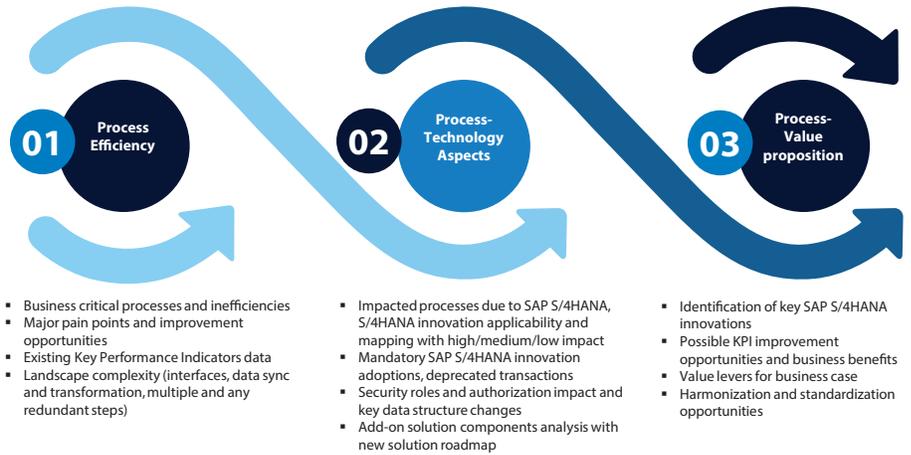


Fig 4: How functional assessment is conducted

2.B. SAP S/4HANA process assessment

Process assessments are also explored by many customers to relook at how SAP is currently used in context to existing pain points, IT architecture, SAP and non-SAP applications usage and holistically carve out a next generation platform and processes using SAP S/4HANA. Process transformations could potentially result in consolidation of multiple instances into a central instance or selective data transformation strategies using Hybrid migration approaches. Process assessments objectives could be very specific to what customers want to achieve as part of their review

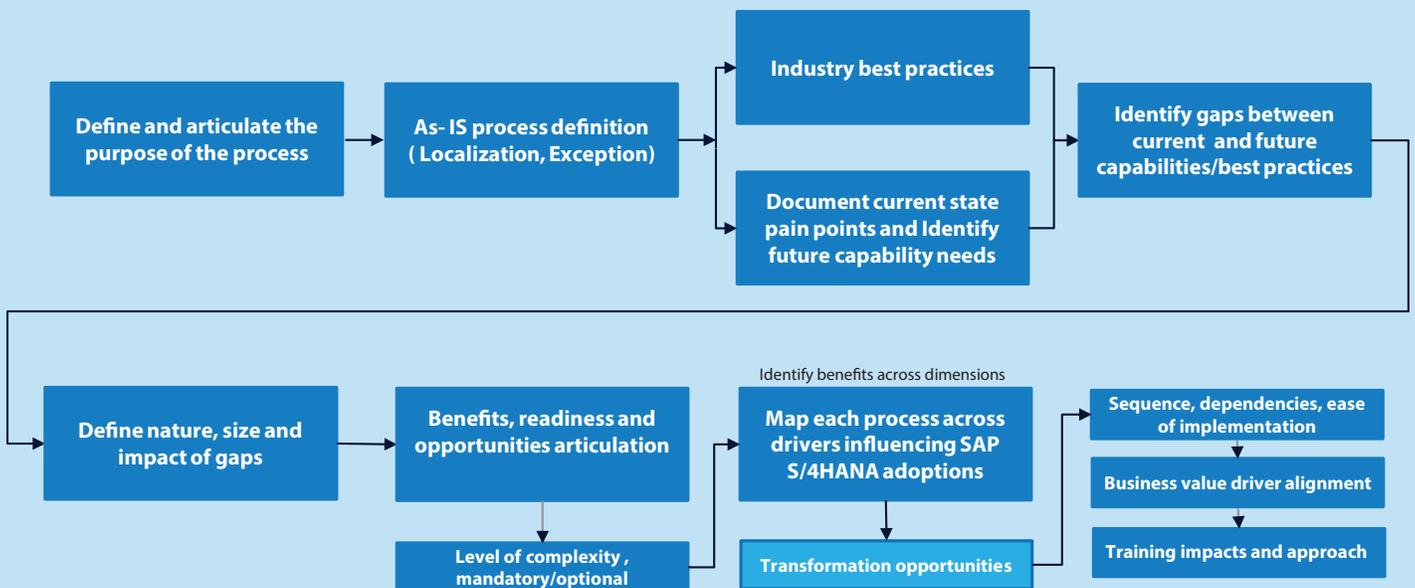


Fig 5: Framework to define the objectives of process assessment

3. Components and activities

Once the objectives of the technology and process assessments have been defined, organizations must plan activities with clear outcomes for each assessment component. The key activities that need to be performed in each of the areas are listed below:

Table 1: Key activities for each component of technology assessment

Component	Activities	Key Deliverables
Infrastructure	<ul style="list-style-type: none"> Define end state Infrastructure solution SAP HANA Hardware sizing for all environments Deployment and consumption models SAP HANA Hardware optimization across applications Cloud Vs On-premise (not cost comparison) High level Impact to HA/ DR 	<ul style="list-style-type: none"> End state Infrastructure solution SAP HANA sizing report for production system and other environments Deployment model based on environment optimization Impact to HA/ DR strategy Cloud Vs On-premise recommendation
Functional	<ul style="list-style-type: none"> Identify relevant S/4HANA innovations Document current pain points Identify S/4HANA Solution enablers Impact of S/4HANA on existing processes and configuration SAP application rationalization User and Change Management impact (due to deprecated functionality) 	<ul style="list-style-type: none"> S/4HANA Impact on processes Current pain points Key innovations applicable and Best Practices Mapping key innovations to current pain points High Level roadmap for critical SAP and non-SAP applications
Technical	<ul style="list-style-type: none"> Impact on custom code due to S/4HANA simplifications Impact on custom code due to DB migration S/4HANA migration impact on interfaces Impact on security and authorizations Identify unused code based on usage statistics SAP Peripheral system compatibility 	<ul style="list-style-type: none"> S/4HANA Simplifications impact to custom code and configuration SAP HANA DB impact on custom code Interface impact report Add-on compatibility report SAP Peripheral System Compatibility Impact on Security roles, OCM impact due to deprecated transactions
Architecture	<ul style="list-style-type: none"> Define end state App Architecture High level roadmap for critical SAP Applications Shortlist relevant S/4HANA adoption options Evaluate adoption options and recommend Environment/ Release strategy for S/4HANA adoption 	<ul style="list-style-type: none"> End state Application Architecture Adoption option evaluation and recommendation Detailed roadmap for evaluation Detailed plan for pre-projects Potential risks and mitigation
Value Identification/ Business Benefits	<ul style="list-style-type: none"> Identify business benefits levers with new functionalities, process improvements and optimization Identify key performance indicators 	<ul style="list-style-type: none"> S/4HANA solution enablers Current KPIs and Metrics Business benefit quantification range

4. Timelines

The timeline of the assessment exercise varies based on the objectives, coverage and availability of business owners. An indicative timeline for SAP S/4HANA technical assessment without business case preparation and deep functional impact activities is provided below:

Phase	Activities in ECC/ Existing Landscape	W1	W2	W3	W4	W5	W6
Prepare	Mobilize Project						
Analyze	Automated tools execution and analysis						
	Core Modules Capability review and analysis						
	Technology Assessment - ABAP, Security, Basis, Functional & Infrastructure impacts generation and summarization						
	Roadmap Definition						
Report	Report and Close						

Fig 6: Reference timeline for basic SAP S/4HANA assessment

Table 2: Key activities to be performed for process assessment

Component	Activities
Assess existing operations	<ul style="list-style-type: none"> Define the scope of business processes review Review the current process documentation Create and review the base process flows Create a questionnaire for assessing the current capabilities (process and technology) Interview business SMEs on process capabilities Document the current state pain points
Measure baseline capabilities	<ul style="list-style-type: none"> Create detailed flows for in-scope processes based on approved base flows Document region, country and product-specific variations for process flows Review and amend in-scope process flows based on feedback Baseline the current capabilities for in-scope processes
Evaluate opportunities	<ul style="list-style-type: none"> Identify future capability needs Identify relevant key industry best practices Identify gaps between current and future capabilities/best practices Define nature, size and impact of gaps Identify technology (e.g. SAP S/4) options Perform process and technology fitment Identify fit/gaps of potential technology solutions
Create readouts and the roadmap	<ul style="list-style-type: none"> Create metrics for as-is and future capabilities Develop a roadmap of opportunities and options Select relevant process simplification and re-engineering options Readout session and wave closure

Conclusion

SAP S/4HANA adoption should not be reviewed just from a technical migration standpoint alone but assessments should be extended to achieve objectives of an IT and Business transformation program. Technology and process Assessments bring parity between existing IT and Business pain points of customers IT landscapes with new advanced SAP S/4HANA technological capabilities and provide a qualitative and quantitative perspective for customers future IT journey.

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