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Renewing the ERP Core:

Innovation and the Case for SAP S/4HANA

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Introduction:
ERP is dead, long live ERP

Companies across the globe – regardless of size, industry, or geography – are all facing the same economic headwinds: business change in the form of competitive threats and new opportunities is coming at an unprecedented pace. The watchword for meeting these challenges is innovation – both in terms of business processes as well as the underlying technology that enables those processes.

But the fact remains that companies are still struggling to find a consistent strategy that offers the best chance for success in driving innovation and meeting the business challenges of today and tomorrow. These challenges are particularly taxing for companies that have historically relied on a classic ERP system as the foundation of their business, and by extension, their innovation strategy.

Many of these companies look at their older, transaction-based systems as anchors holding back innovation. These older systems are unable to meet the challenges of providing greater customer interaction, real-time operations and analytics, improved user experiences, and net new business models in the context of supporting mobility, the cloud, big data, and IoT.

The fact is, these companies are correct. But the solution that some have arrived at – stop upgrading the core ERP system and instead drive innovation through the deployment of best of breed cloud services at the edge – hasn't solved the problem either.

Many of these companies have eked out short-term gains only to realize that creating a set of cloud silos will itself quickly become an anchor holding back innovation, setting the stage for complexity and cost increases that quickly obviate their original justifications.

Instead, an emerging set of companies in a wide range of industries have begun to realize that renewing the core ERP system is the best starting point for an innovation strategy. Importantly, core ERP renewal is fundamentally different today than it has been in the past: What is at stake is much more than just a technical upgrade that renders the ERP system more technically modern, but still essentially running the same transactions and processes.

Rather, these companies are upgrading core ERP in order to make it a platform for innovation that can meet the challenges of the 21st century: An upgraded core can provide significant business innovation in the form of new user experiences and new business processes, while streamlining older processes and setting the stage for net new innovation – in addition to being the launching point for new business opportunities. Importantly, this upgrade to what SAP calls a "digital core" can be the starting point for significant cost savings in operations, training, and user acceptance, among others.
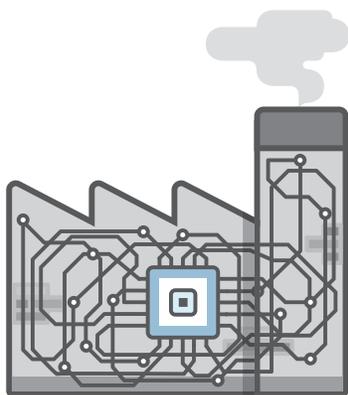
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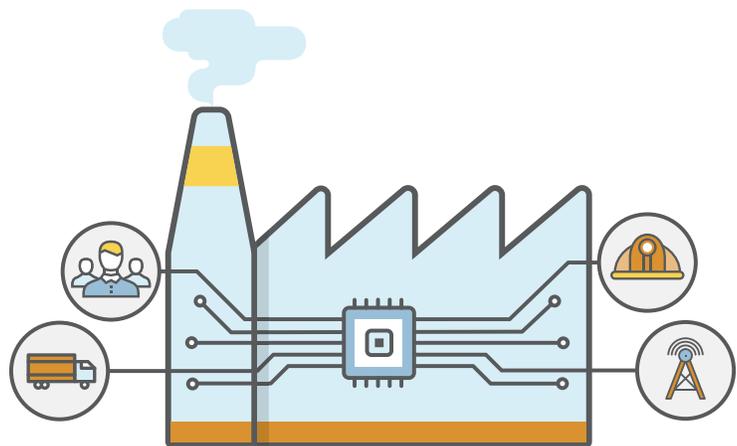
DIGITAL CORE

Key to SAP's digital core strategy is S/4HANA Enterprise Management, deployed on-premise or in the cloud , and running the HANA in-memory, columnar database. This combination of a modern ERP system, running on a modern, "post-transactional" database, represents one of the best examples of a core ERP environment that can support a broad-based innovation strategy while remaining robust enough to support traditional transactional and operational requirements.

This report, based on in-depth interviews with three early S/4HANA adopters, as well as a series of interviews and discussions with over a dozen SAP customers over the course of the last year, will describe how companies can approach strategic innovation by renewing their core ERP systems using SAP S/4HANA. While many early adopters of S/4HANA are still in the initial stages of a strategic renewal of their ERP systems, the value of S/4HANA as a means to both improve existing business processes and set the stage for net new business development has been well-established across the board by these customers.

The Innovative Core and the Renaissance of ERP

Behind terms like innovation and digital transformation is a stark reality that impacts net new and well-established companies equally. New customer-facing systems, predictive analytics, and a support for nascent business opportunities like IoT are catching all the attention as the focal points of innovation. But systems of record – the traditional back office – are still a requirement for doing business in the 21st century. Even the most disruptive startups require a modern back office system that can manage financial, human resource, planning and other core business functions.

This reality underlies every effort to come up with a coherent technology strategy that can support the key business challenges facing companies today. The question of how to build a sustainable IT infrastructure that can support a wide range of innovation strategies remains the strategic challenge of both the IT department and it's business allies.

Even the most disruptive startups require a modern back office system.

## Legacy Limitations, Legacy Opportunities

While established companies share the universal goal with their startup brethren of establishing IT infrastructures that can support innovative business practices, the fact that they have run transactional ERP systems, in many cases for decades, presents a more complex strategic challenge: The classic ERP system helped establish a relationship between technology, business process, and business practice that is no longer sufficient to meet the challenges facing companies today.

That trilateral relationship was founded on transactional batch processes, rear-view-mirror data analytics, a limited degree of usability, and a rigidity that made it difficult to rapidly adapt to changing business requirements. In many cases a considerable amount of customization was needed to serve the business users, and that customization was literally baked into the core of the ERP system, rendering change complex and maintenance burdensome.

While the IT reality of established companies appears to be a distinct disadvantage in the face of the innovation challenges of today, there is one important factor militating in favor of the companies that have been running these older systems. Locked inside the ERP system of every established company is a wealth of historical data and business processes that can be put to use for competitive advantage in the fight against new competitors or the struggle to realize a new competitive opportunity.

This historical perspective can be found in customer and partner interactions, sales and product history, pricing and financial information, and other domains of the back office systems of record. One company interviewed by EAC did exactly that: conducted a careful analysis of the information in its legacy systems that led it to simultaneously uncover significant cost-savings on core processes as well as open up the opportunity for leveraging its data in support of new lines of business.

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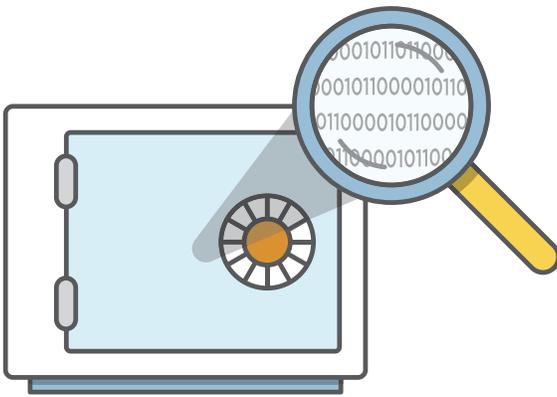
Leveraging the past while preparing for the future adds both a complication and an opportunity to the efforts of established companies to transform their business. The complication comes from the requirement to enable net new innovation, and create new business processes, while maintaining a strong ERP core that supports the new while preserving the past. Preserving the past means that a modern digital core just have to just be about engaging net new customers via new digital channels, it can also be part of an effort to better support and improve existing customer relationships. New business processes– such as enhanced service

Extending S/4HANA with HANA Cloud Platform

Renewing the ERP core isn't the only important strategy for companies looking to leverage the past, prepare for the future, and get out in front of their digital transformation. Last-generation technology platforms are moving in lockstep with older ERP systems when it comes to the inability to support a modern, digital enterprise. What's missing in older platforms, and what HANA Cloud Platform (HCP) can provide, is support for three important functions:

1. Extending existing ERP systems, including cloud services, as part of an incremental migration to a digital core.

2. Extending S/4HANA to other cloud and on-premises systems, providing interoperability and supporting business processes that span previously siloed applications

3. Enabling partner and customer innovation by decoupling the development environment from the platform and laying the groundwork for new business initiatives like Internet of Things (IoT), and business networks.

At the core of these capabilities are the twin requirements of supporting hybrid systems while enabling the rapid development and deployment of new applications and services that can keep up with the demands on the modern enterprise. This in turn leads to perhaps the most salient requirement of all, one that HCP is intended to fulfill: flexibility.

HCP supports flexibility in three key ways. The first is to support a wide range of development environments and scenarios that allow partners and customers to readily build new functionality and deploy it in HCP. While today that means developing on the HANA database, SAP will include support for Cloud Foundry later this year, which means that applications not running on HANA will be able to be easy deployed on HCP.

The second factor with respect to flexibility is the ability of HCP to decouple modifications, customizations, and new capabilities from the ERP core, providing a form of "upgrade insurance" for the company-specific functionality running on HCP. Because new functionality uses HCP and its integration layer,

levels or better product customization – can be used to great advantage with existing customers by, for example, simultaneously increasing revenue per customer and overall customer satisfaction. New analytical models can be used to improve existing products and services. New online business networks can enhance collaboration with existing partners. The list goes on and on.

This is the key to the opportunity presented by the renewal of the ERP core: established companies that are upgrading to a digital core can use that new ERP core to improve existing lines of business and tackle new ones simultaneously. This is a strategic advantage no start-up can hope to leverage.

HANA Cloud Integration (HCI), instead of running directly against the ERP core, extensive customizations and other company-specific modifications do not force the company to do a complete reimplementation when it comes time to upgrade or migrate to a new ERP system.

The third factor is the ability to support a company's modernization efforts at a pace that makes sense for its business and technical requirements. In many cases that means supporting an older version of SAP software, R/3 or the Business Suite, while at the same time integrating and making use of new SAP capabilities like Ariba, SuccessFactors, Concur, or even S/4HANA.

What's important is that companies can build next generation applications that bridge the old and the new while laying the groundwork for a digital core and a successful, on-going digital transformation.

SAP S/4HANA Customers & the Renaissance of ERP

A review of early S/4HANA customers and conversations with service providers who have focused on S/4HANA opportunities shows that, while the early adopters come from a broad range of industries, they have a number of business and technology drivers in common. Each of these companies looked at their business challenges and realized that upgrading to a digital core would effectively position them to adopt new business processes and renew older processes based on four key characteristics of a new, digital enterprise: increasingly real time operations, improved data management and analytics, improved customer and user experiences, and faster, more agile business innovation.

This positioning for the creation of new processes and the enhancement of older processes is the key. Digital transformation is never done, it merely moves from opportunity to opportunity. The digital core simultaneously lays the

groundwork for continual business innovation as it sets the stage for a new way of running the day-to-day operations of the company.

This is very different than the mentality inherent in the strategic ERP upgrades or implementations of the past, which were expected to be "finished" and fully justifiable from a business standpoint at go-live. That meant that business processes were baked in, not expected to change, and were in many cases used to define "acceptable" limits of innovation and business endeavor.

Key Characteristics of a Digital Enterprise

- Increasingly Real-time Operations
- Improved Data Management and Analytics
- Improved Customer and User Experiences
- Faster, More Agile Business Innovation

Catalyzing the Digital Core Opportunity

The S/4HANA customers interviewed for this report looked at this issue quite differently. In each case, an important change in the perceived role of the ERP core was needed, and that change usually started with a compelling business problem. For one of these companies, a major corporate restructuring required a new look at the company's core business model, which in turn started the process of understanding the digital core opportunity.

For another the frustration with being unable to move fast enough to meet a new growth-oriented business opportunity was the catalyst. A third reported that its "aha" moment came with the realization that its needs for rapid growth required a better integrated and collaborative company. This new vision was simply not compatible with their siloed, overly customized ERP systems. Others reported that the need to improve core business processes like order-to-cash were simply impossible in light of the limits of an older generation, transaction processing-based ERP system.

In each case, the process of understand the requirements for meeting the new business challenge highlighted the limitations of the existing transactional ERP core. In each case, an analysis of the limitations supported the case for moving to S/4HANA. Below is a summary of the six key rationales for moving to a modern, digital core.

Digital Core Rationale: Use Data to Create and Support New Processes

The requirement to improve the use of the data in the companies interviewed for this report was seen in two, largely complementary ways. The first was from a business and services standpoint. One of the customer's reviews of it's business opportunities showed that it had a wealth of data that it could use as a separate and potentially highly remunerative line of business, if only it had the proper data management and analytical platform.

It was clear that the older transactional ERP system, which was designed to optimize the cost of individual transactions, was ill-suited to optimize a data-driven, analytics and services-based business, particularly one that also

needed to incorporate data siloed in on-premise and cloud-based systems. That line of thinking led it to look at the HANA database, and S/4HANA Finance, as the best way to manage the data and analytics in real time and use them to surface the exceptions and new business opportunities that would support the company's transition to a data-centric company.

The second way in which data was seen as a key driver for business change was in the need to better manage company data in order to support broader levels of internal collaboration and process alignment. The early adopters interviewed for this report all had significant problems in their legacy systems that inhibited their ability to meet these important internal goals. Siloed operations, heavy degrees of customization, the inability to support the standardization of internal best practices, and the lack of a single version of the truth were all cited as important reasons for looking at renewing the core ERP systems that were at the root of this dysfunction. This need to make the internal operations of the company as seamless and integrated as possible was the starting point that led them to implement S/4HANA as the operational hub of a collaborative, data-centric company.

Digital Core Rationale: Respond in Real-time to Customer and Business Demands

Many of the rationales for becoming more data centric dovetailed with the need to become a more real-time company. This realization is grounded in the rapid pace of business and the rapidity with which new opportunities and new threats can emerge. For one of the S/4HANA early adopters, the pace of business had been driving the need for a real-time executive reporting function for a number of years. When the company decided to significantly grow its new services line of business as an adjunct to its manufacturing line of business, it became essential that a modern, real-time core be implemented to support the necessary real time reporting and operational requirements.

Another company saw the need to increase the velocity of product development, sales and operations, as the starting point for its business transformation. A third company realized that its financial reporting wasn't allowing it to keep close-enough track of its core cash management

processes: what was needed was a more real time view of its financial performance. In all of these cases, implementing S/4HANA and its associated functionality, such as S/4HANA Finance, was seen an important way to support these new business requirements.

Digital Core Rationale: Supporting business process renewal and decoupling innovation from the ERP Core

The ability to rapidly respond to threats and opportunities by creating new business processes was an important aspect of most customers' move to S/4HANA. Underlying this need was the requirement to be much more agile in both renewing existing processes and creating new ones. Older systems that were not scalable, hard to change, and expensive to maintain were seen as anchors holding back companies from meeting this challenge, further justifying the move to S/4HANA. For these companies, the process of maintaining heavily customized legacy systems took too many valuable cycles away from the effort to support innovation.

Running S/4HANA provided an important additional benefit: the decoupling of innovation from the ERP core. Running on an S/4HANA digital core allowed these companies to create net new processes and analytics

without having to hardwire them in the ERP core or create a degree of customization that would become an unsustainable barrier to innovation. The use of S/4HANA as the core meant that companies' ERP and non-ERP data and processes were "de-siloed" and readily available for the creation of new processes and business analytics either through the HANA Cloud Platform (HCP), extending with other SAP Cloud solutions or through designing new Fiori-based applications.

For one company, this capability meant it could take a fresh look at its cash flow and revamp core cash-based processes like invoicing. Another was able to create analytics that better measured the actual costs of its customer support operations in ways that were not possible before. Another company used the connectivity built into S/4HANA to make it the hub of a new set of cross functional processes that spanned a number of other SAP cloud properties. In every case, a new digital core gave these companies the ability to support core business process change with an effectiveness and efficiency that would have been virtually impossible to achieve with their legacy ERP systems.
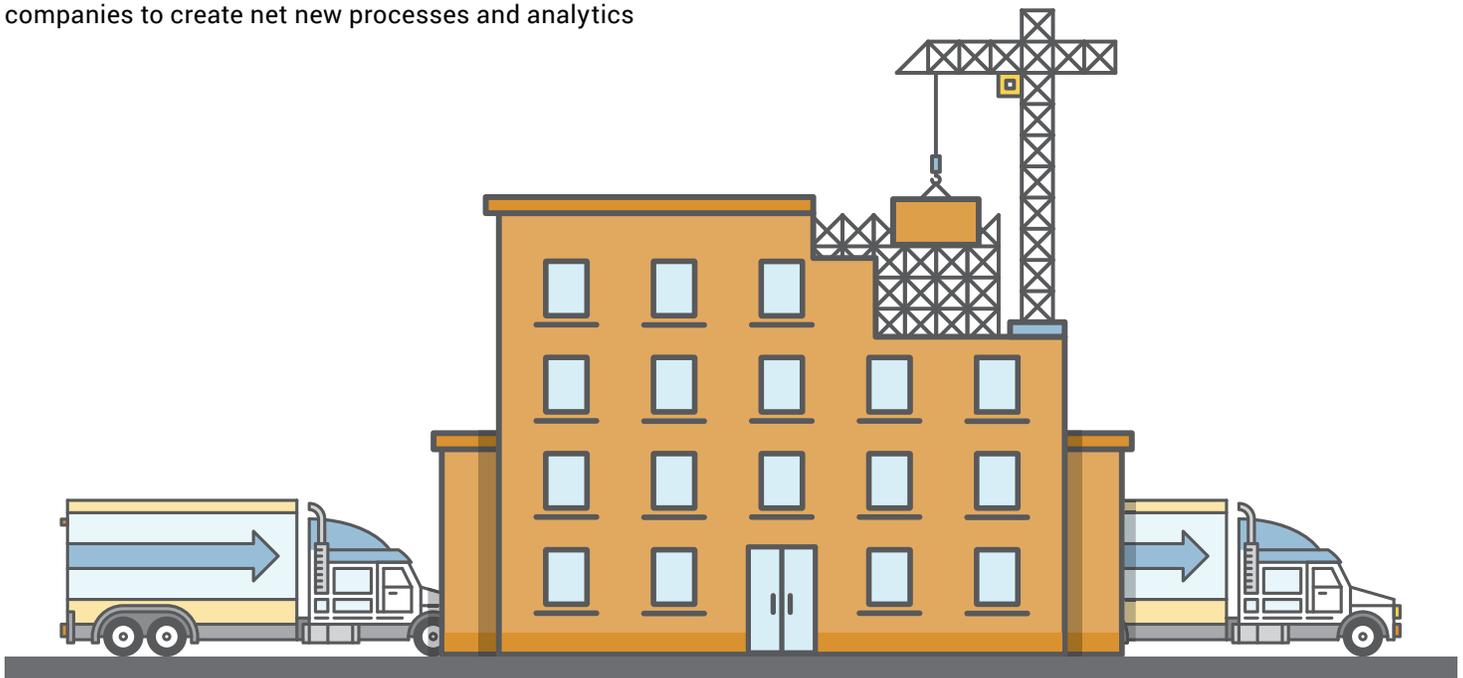
Digital Core Rationale: Move to a hybrid cloud/on-premise infrastructure

While moving to a hybrid infrastructure wasn't necessarily the starting point for these customers' choice of S/4HANA, the above rationales helped make the case for moving from an all on-premise infrastructure to a hybrid infrastructure. One customer's core operations, and much of the non-ERP data it wanted to use to drive new business processes, were mainframe-based and not able to be migrated to any new environment. That lead the company to upgrade their financial systems to S/4HANA Finance and build a hybrid cloud/on-premise solution. By leveraging the data management capabilities of the HANA database, this company was able to build a comprehensive analytical and planning environment that spanned its on-premise and new S/4HANA cloud systems. This is an excellent example of a company leveraging its legacy advantage by unleash the value in their existing data systems using a new digital core.

Another company used the flexibility of S/4HANA to run the digital core side by side with critical components of its SAP on-premise system, allowing the company to manage its transition to the cloud and S/4HANA without disrupting the existing business processes running under the older on-premise system. While this company will eventually move its entire back office to S/4HANA, the "sidecar" option allows it to better manage the process of change within the context of maintaining the on-going business.

Digital Core Rationale: Becoming More User-centric and Customer-centric

The ability to create net new business processes and enable them with a modern user experience was another key rationale in the deployment of S/4HANA. The Fiori user experience, on which all S/4HANA processes are based, was seen by these early adopters as a key part of the overall improvements in user acceptance needed to make the business changes in the enterprise stick. This was particularly the case with companies that were implementing new analytics to measure the need for and impact of business change: being able to present those analytics in a highly graphical, intuitive user experience was a key part of the overall value of deploying S/4HANA.

On the customer-centric side, the ability to create new information and processes and deliver them in a consistent manner worldwide – whether to a mobile or desktop device – was an important rationale for all of these companies, though for most it is a goal that will be achieved once the digital core is fully in place and the new customer-centric business processes have been fully deployed.

Nonetheless, the ability to deliver better user experiences on a global basis, on any device, meant that a new ERP core was needed to create the necessary delivery and deployment environment.

Digital Core Rationale: Improving and Streamlining Change Management

Change management was an underlying rationale for all of the customers interviewed for this report. This requirement is understandable: one of the most important, and therefore complicated, tasks in a digital transformation is the change management needed to move people and processes forward.

For several companies, adopting the best practices built into S/4HANA as a starting point could significantly streamline their digital transformation. The fact that some of these processes, like quote to cash, are significantly faster and more user friendly in S/4HANA than they were in the legacy systems was an important factor in user acceptance and the overall return on investment of the system.

For other companies, change management also meant the ability to create an adaptive business environment and support it by enabling new functionality that could easily deployed, easily maintained, and easily changed as necessary, especially to a newly empowered workforce and executive team. This is an important outgrowth of the ability of a digital core to transform business process creation and renewal, and was a key underlying rationale for all the companies interviewed for this report.

Conclusion: Business as Usual, Innovation on Demand

The sum of the experiences discussed in this report showcase how SAP S/4HANA, running on-premise or in the cloud, an form the basis for a broad-based business transformation that does not require a big bang implementation to succeed. In fact, the final hallmark of these early adopters' strategies was the incremental nature of their S/4HANA journeys: the journey to business transformation started with renewing the core for the very reason that, without that new digital core, the company's efforts to transform would become mired in the complexities and limitations of the previous generation of ERP systems. Once the new digital core was in place, the journey could begin in earnest.

This incremental approach works precisely because business transformation is by definition a moving target, and the companies that understand this process know that they can't afford to wait until all the threats and opportunities are analyzed and prioritized before they begin to move forward. These examples show that by starting its business transformation by renewing its ERP core with S/4HANA – which has been specifically engineered to support hybrid cloud/on-premise deployments – a company can safely plan for a significant transformation of its business while minimizing the risk that it will not be able to actually implement the necessary new business processes in its technology infrastructure. These points will be further explored in a series of detailed case studies on three of the companies interviewed for this report.

While business transformation will always be a journey, oftentimes undertaken without benefit of map or compass, it's important to prepare for the journey as carefully as possible. Deploying S/4HANA can provide the foundation on which a company can base its digital transformation for many years to come.