

## Abstract

ERP is dead. And we have killed it. The monolithic Big Bang ERP mindset has become pervasive in the current times, limiting the potential for new developments to go mainstream. Organisations operating on this and the post covid era face serious challenges against mature incumbents with big standard ERP solutions deployed. However, the 2010s changed the game. Growing companies such as BKB can manage to scale operations and develop competitive advantages based on a comprehensive ERP deployment and digital transformation. Moreover, new developments can be integrated and take advantage of an open architectural ERP base.

## Introduction and Context

Many times, it has been claimed that ERP was dead. In 2015, Stephen Kelly, the CEO of Sage, announced that they were dropping the term ERP and would no longer use it on any of their products. He manifested that it was a dead term, and it stood for: “Expense, Regret, and Pain.” This happened during the rise of the Cloud as a mainstream technology. Indeed, it would be around January of 2016 that Netflix had already completed their cloud migration.

The “cloud situation” is only one example of the many technological innovations built upon technological infrastructures such as the internet. Moreover, such innovations could either represent sources for new alternative solutions or new sources for the development of new features and standards in the Enterprise Systems Industry. Either way, these new kinds of developments are shifting paradigms on the “ERP universe”. The discussions about ERP benefits for businesses and the study cases of success or failure of ERP implementations are still meaningful but are no longer the most important. They belong to the 20th century pre-digital industrial era.

In the 2010s, plenty of significant advancements and societal shifts occurred and became so quickly ingrained in our daily lives that they often went relatively unnoticed, and their impact is all but forgotten (Palandrani and Little, 2020). We are currently living in the “Facebook era” since this company is the champion for the mythos of the 2010s. The 2010s marked the point in which the “internet startup” and “lean startup” movements, among others, got mainstream and stimulated “The convergence”. A multifaceted development of events that have contributed to uncharted technological, cultural, societal and economic progress. To name only a few: Agile became mainstream outside IT and now is assured to take over and transform any other function in the same industry (Rigby, Sutherland and Takeuchi, 2016). Globalisation keeps on reaching new peaks despite facing certain turbulences during the Trump era and market integration still being limited in absolute terms (Ghemawat and Altman, 2019). Industry 4.0 concepts were conceived and will undoubtedly penetrate companies’ processes and supply chains. Furthermore, thanks to the information technology (IT) and operations technology (OT) integration, they will revolutionise supply chains, production and business models (Deloitte, 2016).

Organisations operating during this era are positioned in a complex landscape. As mentioned before, former Enterprise Systems definitions and paradigms aren’t that relevant anymore. “As we move deeper into the 21st century, it is becoming apparent that the applications that support the *raison d’être* of our businesses must change.” (Gartner, 2019)

## Information systems management issue

ERP has already outgrown the monolithic era systems and incumbent vendors’ concept of a single definition product. Postmodern ERP paved the way for ERP development as a strategic concept that encompasses the relevant or needed business capabilities, and the constituent applications required to enable those processes (Gartner, 2019).

Therefore, it is relevant to assess if ERP solutions can contribute to current era organisations. Whether it is a startup trying to scale into a Unicorn or a growing firm from a Developing country undergoing “Digital transformation”, their attempts to reap the benefits of new developments in the Enterprise system industry can derive into a more competitive landscape generates even more value.

The case study analysed is about the digital transformation journey of the South African company BKB Ltd. We will further discuss the before mentioned controversies about ERP in the current era and analyse the experience of implementing an ERP solution.

## Discussion and Argument

Stephen Kelly (2015) might've had a point when he proclaimed the death of ERP. Monolithic ERP wasn't the predominant standard around that time, yet the outdated mindset of "ERP" as massive, inflexible systems persists (Gartner, 2019). Back in the day of the heyday of "Big bang", the days of ERP implementations, many projects either didn't deliver as promised or failed (Schmarzo, 2018). The "FOMO" of the golden ERP days reverberates to these days as many organisations mischaracterise Big ERP projects as silver bullet solutions without properly contemplating a comprehensive, holistic deployment.

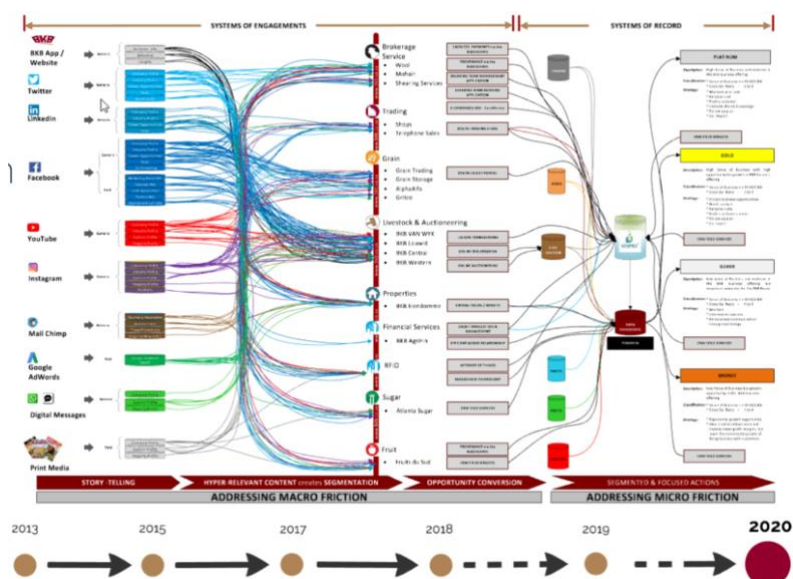
New era challenges are also beyond developing strategies for the management and development of central data collections focused on "resources" or "planning.". The focus is shifting beyond the enterprises' closest nexus and reaching a broader supply network ecosystem (Gartner, 2019). As data is critical for the operations of the organisations, its handling and proper use require the further implementation of new developments that solve plenty of the installed base former issues or limitations (Deloitte, 2017).

BKB is appropriate for assessing the situation. It is a leading organisation in the South African agricultural sector. It operates on domestic and international markets and serves 67,000 clients, including 35,000 emerging farmers (SYSPRO, 2019). They started their digital transformation in 2014 and deployed SYSPRO as its foundational manufacturing ERP system. The General manager of BKB, Jaco Maas, manifested their interest to manage the Industry 4.0 challenges (IDC, 2019).

The main challenge consisted of leveraging digital technology under an appropriate project deployment strategy to address the traditional and emerging market limitations. Their business model is based on the brokerage of transactional operations and the trust of the agents. In partnership with SYSPRO, BKB succeeded to change from traditional agricultural cooperation to a true agribusiness that embraces the principles of a learning organisation (SYSPRO, 2019). The project's success can be traced back to the proper deployment strategy that considered both BKB needs and the appropriate, feasible solutions. Their strategy involved analysing the fundamentals of their business model and implementing new disruptive technologies deliver tangible value (SYSPRO, 2019).

First, BKB made an audit of its technology, processes and types of interactions with customers and partners. This was done with the purpose to identify gaps, bottlenecks and missing parts in its operations. They managed to identify frictions on the Macro and Micro levels (Gheorghiu, 2019).

Image 1: BKB System's analysis (BKB, 2019)



Then, they addressed the macro-level frictions by identifying the internal sources that supported their processes. This includes the proper standardisation of Financial Management, Supply Chain Management, Production management, among others. Using SYSPRO ERP, BKB managed to improve its processes and increase its productivity (Gheorghiu, 2019).

An important consideration for the deployment was the required ICT infrastructure. On account of the before mentioned cloud phenomena, many companies', mainly SMB's, willingness to consider traditional-on premises ERP deployments decreased steadily in 2011 and drastically in 2013 (Mint Jutras LLC., 2014). SYSPRO cloud hosting services allowed BKB to deploy and run the ERP on the Cloud. Nowadays, BKB can produce aggregated business insights delivered seamlessly and in real-time from a centralised system in the Cloud (SYSPRO, 2019). The cloud option is fundamental to allow successful deployments in the current era. Furthermore, agile approaches for implementation projects allow a quicker time to value. The days of five-year waterfall ERP implementations are over (Gartner, 2019).

Eventually, by using SYSPRO ERP as their architectural foundation layer, BKB would transition to implement more sophisticated technologies. The Industry 4.0 context can explain the purpose of this. It's imperative to consider further connected services on broader distributed environments (Mint Jutras LLC, 2019). Moreover, there's a need for the ERP system to be connected to third party IT systems and use diverse real-time data accessible on various devices (Deloitte, 2017).

"BKB has the largest sheep shearing team in the world and holds six auctions a week, and its producers shear  $\pm 12$  million sheep per year – approximately 63% of South Africa's output." (SYSPRO, 2019). BKB managed to implement the entire auction process online by deploying an IoT layer upon the ERP. Through RFID tags in the sheep's ears, BKB collects sheep's "value digital profile data" and links it up to the internet. All relevant information from the animals is translated into the object attributes of the digital twin. According to Maass, "Now buyers don't necessarily have to see the animal to start trading with it. It has become a great example of how technology is meeting business needs." (IDC, 2019).

After using RFID to exploit the IoT capabilities, BKB concluded that they could leverage IoT even further by using blockchain technology to improve traceability and trust. Despite the development of open cloud ERP systems, there still are some relevant issues regarding centralised on-premise data handling. Blockchain technology may offer a solution for this. Blockchain technology is a distributed ledger of transactions shared among network run on different computers. Besides, the cryptography and consensus-based immutable nature of the transactions makes it impossible to compromise the ledger. The main application for organisations could be the public register of transactions and exchanges embedded with supply chain relevant information, guaranteed transparency, and reduced tracking and reporting costs (Infosys Ltd, 2018).

Using APIs, it was possible to link the SYSPRO ERP data to BKB's blockchain app. Accordingly, BKB can offer the stakeholders complete attributability and engage them by reducing transactional friction and creating value. For instance, BKB's emerging farmers get advances on their products thanks to mobile payments based on information pushed into the blockchain. As the information passes through the value chain, wool buyers can plan their production based on the flow of the registry of products and transactions (SYSPRO, 2019).

Another instance of BKB's blockchain application is the app they developed to record food safety and marketing information for raisin farmer and pesticide companies that supply them. By linking it up to their Supply chain, they can notify the farmers when it is safe to harvest by using the pesticides companies' info about their products and aggregating calculations based on the transactions. With this predictive analysis, BKB can inform the pesticide companies when the farmers are spraying. With this information, the companies can actively promote their products on the appropriate dates. (SYSPRO, 2019). Certainly, ERP Blockchain integration can generate multiple benefits.

## Conclusion

In conclusion, there's evidence to suggest that new generation developments on the Enterprise systems can contribute to organisations to further develop and scale beyond its usually contemplated for traditional monolithic ERP thinking. We can identify from the analysed case study that it is plausible

for organisations to go beyond standard best practices offered by traditional ERP solutions and implement superior benefits that allow them to develop competitive advantages. By leveraging SYSPRO's solution offering and Industry 4.0 capabilities, BKB has taken on the role of digitally transforming the entire agriculture industry in South Africa and beyond (SYSPRO, 2019).

The case's success can be attributed in significant part to the partnership with SYSPRO and its versatile and flexible ERP. However, from a project and managerial perspective, BKB's initial auditing and its continuing internal assessing allowed them to bring it to fruition and strive for more. With sufficient by-product insights, they correctly identified the optimal way to allocate resources and develop solutions coherent with the requirements and their internal capabilities.

The possibilities and future cases present during the post covid stage are unprecedented and will certainly shift entire industries. New generation ERP developments are required to keep innovating and enable this.

### **Critical reflections**

As extensive as the ERP topic could be, it is true that this discussion can be further developed by considering additional information systems management issues. The following topics are rooted in the context of the discussed case and can be valuable to understand it from a more complex perspective. First, there is data processing and analytics as a source for optimal decision support. The kind of deployments described before need to address an essential volume of data flow and processing. This issue is coherent with applied Big data and Business intelligence. Second, the business implications considered on this kind of project make managers consider matching the organisation's critical aspects with the ICT needs and implications. To generate the optimal value out of IT, managers have to develop strategies that consider the correct usage of ICT aligned to the organisation's objectives. This issue is appropriate to further develop the topic of Information Technology and Business strategy.

As described in the BKB case study, the multiple integrations built upon the ERP managed to provide the organisation with more data to work. To be able to provide their impressive outputs, BKB developed a way in which it would be possible to handle Big data analytics and cover its limitations with their Blockchain sources. Moreover, depending on the structure of the database architectures like IMDB, it is possible to execute real-time Big Data processing through OLTP or OLAP procedures (Deloitte, 2017). While the advancement of the project continued, there were also complementary incorporations like Microsoft Azure and Microsoft Power BI (IDC, 2019). Indeed, handling all of this couldn't be achieved unless there's also an automation layer implemented. Usage of AI to handle repetitive and complex tasks is fundamental. Dedicated ML applications can detect patterns and generate insights from Big Data sources. Also, by using flowing data to trigger events, automated executions can complement and optimise entire processes. Indeed, it would be interesting to study the internal data handling and the resources used to manage such complex operations.

Meanwhile, Strategic planning and proper management remain crucial for the success of such kind of developments. Without a doubt, during their digital transformation journey, which continues to this date, they managed to identify core concepts within the organisation and managed to internalise the ICT value into their DNA. This is portrayed on their company overview statement: "The BKB Group embraces the future of the agricultural industry. In the fast-changing world, we will accelerate our development and growth, embrace digital transformation and advance through innovation, efficiency and by adding value to our customers." (BKB, 2019). As mentioned before, an exhaustive internal study for the digital transformation was executed to identify where ICT could support or redefine the main organisational components. Fundamentally, the core layers in which the ICT has the potential to redefine to face the Industry 4.0 challenges are Strategy, Organisational structure and Processes (Deloitte, 2017). A deeper study with more documentation could be useful to analyse the development of Competitive advantages embedded in an agile digital context.

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