

# An ERP Implementation Case Study in the South African Retail Sector

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**Abstract.** The enterprise resource planning (ERP) is an ever-growing software used globally and in all sectors of business to increase productivity and efficiency, however, the south African market does not show any symptoms that it needs such facilities as we tangle the whys and how's on this case study. We use previous studies from the literatures that show an ever-thriving sector such as the South African retail can continue to thrive in the absence of ERP and remain relevant and the biggest market contributors as they have been for the past decades. We focus our sources from year 2020 to 2022 to further influence our case to openly clarify the question of the implementation of ERP system. Our studies settle the unanswered question of the implement ability of an ERP system in the retail sector by exploring both functioning and failed installations and how those were resolved, the effectiveness, efficiency and productivity in the absence and presence of ERP system in place in similar economies such as the South African retail sector, both in the past and present times. The south African retail sector has adopted expensive and difficult to maintain ERP systems, which has a drastic increased improvement in the productivity together with the risks of failure. Such risks were witnessed with Shoprite closing doors in Botswana, Nigeria, and Namibia, this has been proof in failure of expensive and fully paid enterprise resource planning that still failed in more than one country. Our solutions consist of methodology contributed an easy to implement solutions to the retail sectors and can be adapted for different purpose, the integration between large retailers and our system would save millions, time and resources.

**Keywords:** Enterprise Resource Planning (ERP) implementation, Retail sector, South African market, National GDP, ERP Prototype.

## 1 Introduction

The Enterprise Resource Management is defined as a platform companies use to manage and integrate the essential parts of their businesses; the ERP software applications are critical to companies because they help them implement resource planning by integrating all the processes needed to run their companies with a single system (Anderson

,2022). Back in the days, organizations would organize their data manually and spend a lot of time searching for what to use when needed. Unlike what the modern world, where everything can be accessed within seconds and be made available for use. The race of global market improvement is endless, with that in mind, we hope to identify new or at least endorse the best use of ERP as the ultimate solution to the South African Retail sector. To answer that question, it is necessary to go through brief history of the ERP and an in dept research of its capabilities in comparison to its rivals and possible best solutions to the retail sector in the retail sector, that will best benefit the market in the recent age. In the late 90's, organizations saw the need to introduce a method that would better assist them integrate their material stock processes without having to literally walk around searching for it, specifically in 1960, a system that would later give birth to ERP was introduced and named Manufacturing Resource Planning (MRP) (Mulvenna,2 022). The change brought about by the MRP gave an idea for the creation of an ERP which would not only manage or help integrate the manufacturing process in the manufacturing sector, but to be as effective for the whole organization.

Firstly, introduced by the Gartner Group, a company founded in 1979 for the purpose of technological research and consulting for the public and the private sector. The group having numerous employees at their headquarters in Stamford, Connecticut, United State, they needed a method to keep their date accessible to the members of the organization and public, at the same time to keep their ongoing research from leaking to the public before it is ready for publishing (Gartner, 2021). Their first public shining of a system that could link the finance department to the manufacturing and to the human resources within itself, came about in 1990 and they named it, an Enterprise Resource Planning because it would save them resources, time, and money, considering how expensive it is to install an effective ERP, this method becomes a question that for ages has been ignored. The system kept on growing and developed by many organizations over the years, and today, organizations all over the world grew dependent of these systems as well as they became more effective because of the ERP systems.

### **1.1 Problem Statement**

The Enterprise Resource Planning has become the corporate savior of businesses once established and well maintained, however, many organizations with access to such luxury especially in the retail sector in South Africa have decreased the number employees that would be responsible for date capturing, safe keeping and suppliers, causing an eruption of unemployment and dependency of virtual data than proof and full control of its access, contributing to the recent 44,1% unemployment rate (Quarterly Labour Force Survey, 2022).

Problems caused by Enterprise resource planning software can only be blamed on the system not people, taking away the privilege of accountability and direct implementable solutions. Whatever that is lost due to failure of the system cannot be recovered because no one had the actual data except the system itself. We fully rely on keeping data on the cloud that never fills up in the name of privacy, however, we do not take into consideration the fact that the creators and maintainers of the clouds have access to

everything in it, increasing the risks of corporate espionage and unauthorized data access by bidders of data (Shacklett,2021). The truth of the matter is, the absence of ERP does not completely erase all these risks, but it does leave traces of information and who to hold accountable and recover from loss.

As it turns out, installing an effective and fully functional Enterprise Resource Planning system in an organization, would cost between R2 550 000 to R12 750 000 in sector that probably makes less than a million rands per annum. According to (Peatfield), 2022 ERP report showed that the average budget per user for an ERP project is \$9,000 US dollars. When you consider the fact of how many users your system may have especially for larger businesses, and added costs, you'll find an ERP implementation can cost anything between \$150,000 US dollars and \$750,000 US dollars for a middle-sized business. This emphasizes the fact that apart from increasing unemployment rates, it costs a lot of money to install while it still comes with unavoidable risks, which again uncovers that fact that ERP systems are not as necessary as we deem them to be. Their essentiality comes at cost and are valuable to some extent (Miller,2022). As costly as it is, an ERP system saves time, money resources over time to any functional retail sector in any level. Even though there are some factors affecting the costs of an ERP such as size, operations, departments, services provided and the complexity of an organization, nevertheless, the problem lies upon costs and the reality of implementable an ERP in south African retails sector.

The paper arrangement is as follows: Section one: Introduction, section two is the literature review while section three is the methodology section and the paper concluded with section four which is the conclusion segment

## **2.1 Literature Review**

Almost all major enterprises have adopted one or another enterprise resource planning to boost their business activity. Although, implementing an enterprise resource planning system can be a difficult path as implementing the system takes steps and the cooperations of management to make it work. To implement an Enterprise resource planning system has and will always be a complex process which is one of the challenges the retail sector experienced.it has been very difficult seen from the high rate of failure rates of implementing an enterprise resource planning system. It has been found that at least 65% of Enterprise resource planning system are classified as failures and in turn failure of Enterprise resource planning can lead to the collapse of a business resulting to bankruptcy. According to (Babin et al, 2022), at least 67% of ERP implementations are not able to meet the customer expectations. The purpose of this paper is to focus on the process of pointing out, arranging, and examining the failure factors of ERP implementation using analytical methods.

In retail-based business, consolidation of several business functions is a necessary condition, (Hove-Sibanda et al. 2021). Many retail chains in South Africa have already invested in ERP system to enhance their businesses. Retail chain in South Africa rely

on ERP to track the supply chain, financial process, inventory, sales and distribution, overall visibility of the consumer across every channel and take customer centricity to a new level. However, many retailers in South Africa are still using various islands of automation which are not integrated with each other to manage their core business functions. This strategy can result in somewhat lower levels of effectiveness and efficiency. Implementation of ERP systems is a highly complex process which is influenced not only by technical, but also by many other factors. Hence, to safeguard the success of ERP implementation it becomes imperative for the retailers to get a deeper insight into the factors which influence the ERP implementation

According to (Polka,2021), the efficiency of your ERP will depend on how the end-users adapt and utilise your system. Thus, it's condemnatory to make sure that the users are properly trained to interact with the system without any assistance. This will not only save money and time, but it will improve organisation's processes and ERP solutions need to include consumer-oriented functionality in addition to standard ERP features (Jepna 2022) . Some of these solutions are made specifically for things such as clothing items, food, and cleaning supplies and can supply features that can benefit the company greatly. A resource has been developed to assist buyers to adopt the best ERP solutions for retail to fit the needs of their organisation.

The ERP system will integrate all business functions at the lower cost after the initial installation costs have been covered, covering all the different sectors of the organization. An effective ERP cost's is dependent upon the size for the organization. Similarly, according to Noris SAP (2021), states that the complexity of the organization or business and the degree of its vertical integration has a major influence on the costs and package to be selected when purchasing an ERP package. Seconded by the revenue that the business already generates or plans to bring into the business. The scope of the functions to be covered by the system also has a major influence on the costs, this includes amongst others if the system will be required to be integrate different business models or one that deals with a single product. Businesses dealing with manufacturing, distribution, sales, and human resources would require a more complex system because it would be integrating several departments into one central source of information where the next department would consult for the next processes (Gibson et al,2021). Smaller companies use smaller systems, therefore less costs would be accumulated. The integrated systems would require less resources or at least focus on one a single department such as manufacturing alone that would only communicate information between the supplier of the material and the company responsible for manufacturing. Ian Write on his version of the SAP Comprehensive guide on Write, (2020), states that the degree of sophistication and unique requirements in the company's future business process, are there unique customer information requirements or ways that are needed to cut and present information, this is referred to how much of a custom solution is needed. The budget in placed for the system and as well as the hardware that would be installed to get the system operational. Some of the challenges and methods used in proffering solution to ERP challenges are listed in Table 1 below:

Table 1: Research Gaps on Enterprise Resource Planning Solutions

Year	Author	Challenges	Method or Systems	Solution
2022	Bill Baumann	Weak Management for projects related to ERP Systems	Panaroma consulting group systems (ERP Problems and solutions to consider before implementation)	Shifting of roles, sharing responsibilities and outsourcing manpower has been the most effective solutions ever implementable.
2020	TEC team	Business philosophy changes	Product Lifecycle management	Using a flexible system, able to be updated and upgraded for the current and present purpose of the organization.
2022	TEC team	Overpriced expenses in installations of an ERP	ERP Software lifecycle	Make use of an EAM (Enterprise Asset Management) they are cheaper and useful to all organizational sizes.

### 3.1 Research Methodology

In this study Analytical research method is used to understand the ERP implementation in the South African retail sector. Researchers frequently do this type of research to find supporting data that strengthens and authenticates their earlier findings. It is also done to come up with new concepts related to the subject of the investigation.

According to (Niekerk,2021), For a business owner in South Africa, an ERP system like SAP Business One is the ideal way to improve productivity and manage your company's operations across all functional areas, from accounting and financials, purchasing, inventory, sales, and customer relationships, to reporting and analytics, helping you stay competitive in this economic age. In an enterprise, different business functions are making decisions that have an impact on the organization at any time. ERP enables centralized management of all corporate units and operations. We use historical cost as per figure one and current costs to determine a possible future cost of an ERP, that is, to minimize costs and determine whether an ERP is a solution we seek, or an alternative should be introduced.

**Table 2.** Likelihood and impacts of the implementation of the ERP system

<b>Problem</b>	<b>In the present (before 2022)</b>	<b>In the present (2022)</b>	<b>Future hypothesis</b>	<b>Solutions</b>
The use of an ERP in the retail industry	26%	53%	The reliance of the systems is growing while there are still questions of who has access to the information stored on the systems outside the organization. (Biel, 2022)	The system requires constant update with compatible with the new ERP features. (Bill Bauman, 2022)

Cause of an employment rate	26.91%	33.9%	The level of dependency on system is rapidly increasing, by year 2050 it is possible that human effort will not be required in the retail sector. As it is, the estimated gross estimate is \$117.69 billion (Strategic Market Research Llp, 2022)	Keeping a team fully involved and updated in every step of the way, allowing them to interact with the system. (Organizational change management) (Panorama consulting group 2022)
ERP system failures	50%+	70% +	From the previous results, it is possible that reliable systems will cost more than businesses can make. (Pemeco, 2019, 2022)	Continuous establishment and measuring of KPI's to ensure that the system is delivering as expected and the needs are met. Implementing the continuous improvement system. (Bauman, 2022)

Table 2 above shows analysis that are used to understand the ERP implementation in the South African retail sector. Researchers frequently do this type of research to find supporting data that strengthens and authenticates their earlier findings. It is also done to come up with new concepts related to the subject of the investigation. According to (Niekerk,2021) For a business owner in South Africa, an ERP system like SAP Business One is the ideal way to improve productivity and manage your company's operations across all functional areas, from accounting and financials, purchasing, inventory, sales, and customer relationships, to reporting and analytics, helping you stay competitive in this economic age.

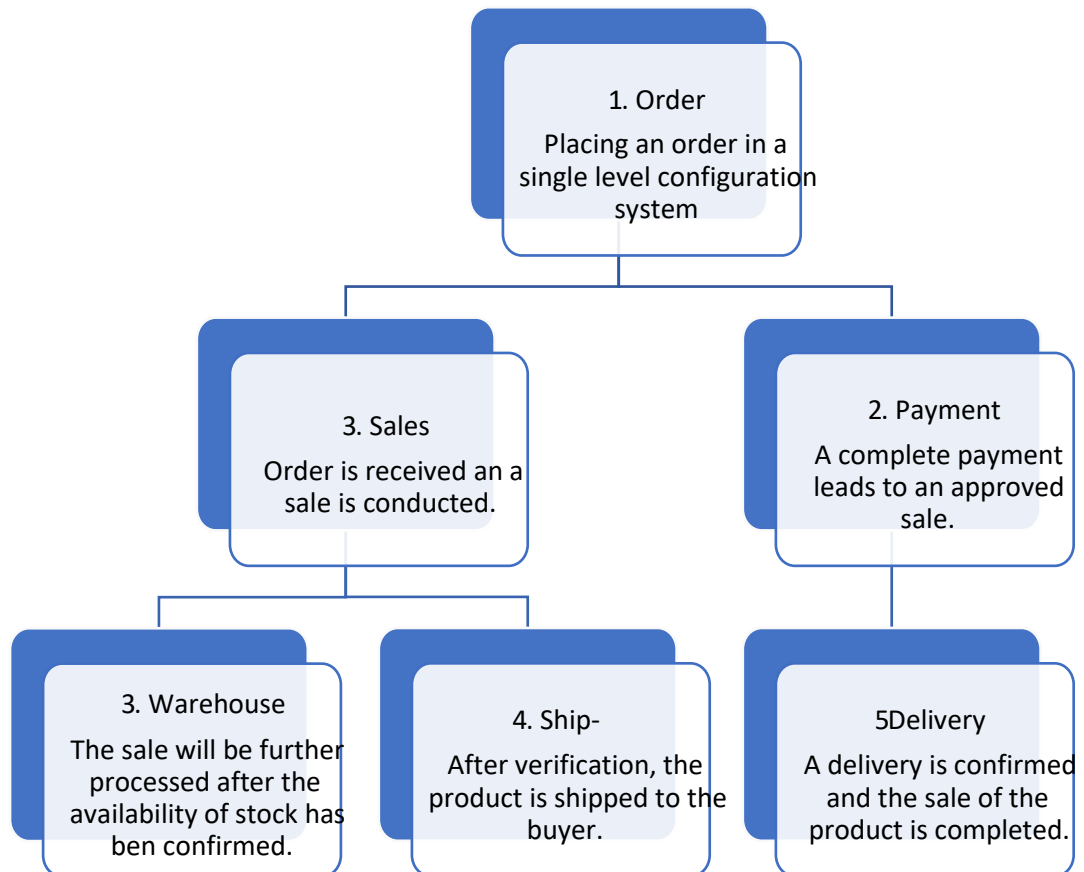
In an enterprise, different business functions are making decisions that have an impact on the organization at any time. ERP enables centralized management of all corporate units and operations. As shown in figure 1 below, it is a typical ERP implementation strategy organized into six phases, each with its own set of objectives shown in the diagram below:



**Figure 1.** *The 6 basic phases of an ERP implementation plan*

Implementing an ERP system offers many benefits for various businesses. It enables departments to operate simultaneously and assists in the storage of data in a single database. The implementation of ERP integrates all the departments, including customer service, human resources, supply chain, accounting, finance, and inventory management, and enables them to collaborate.

### **3.2.SAP ERP modern business process model:**



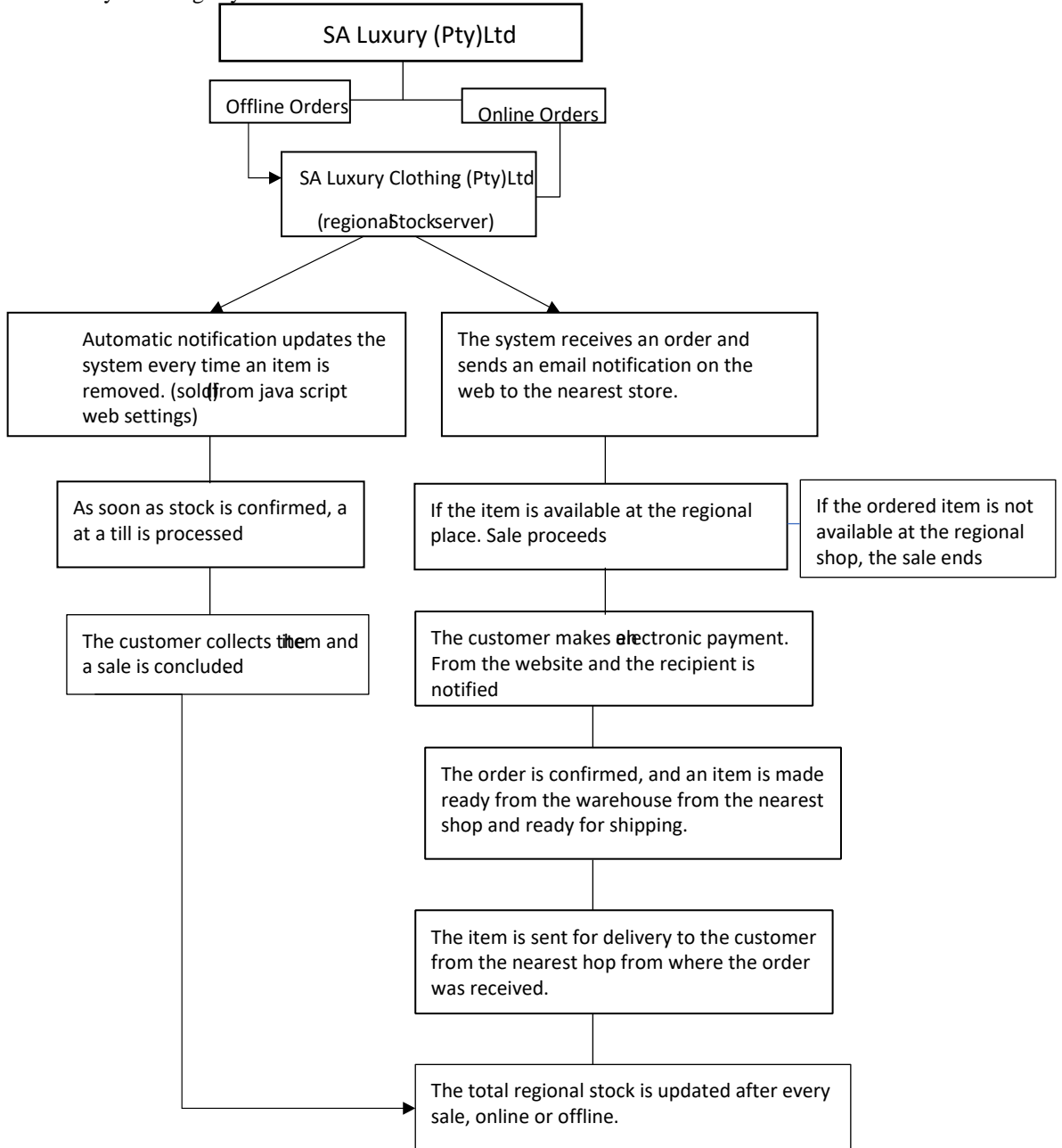
**Figure 2.** SAP ERP modern business process model

In the above figure, Step 1. An order is placed into the system. The order is not complete or processed or considered a sale until one requirement is met by the customer or client. The second step validates the order by paying, the system notifies the user of the system about the payment and the product is immediately made available for the client. The third step happens simultaneously as the second one, a sale is validated as soon as the payment is received and confirmed for all online sales.

The warehouse confirms the availability of the ordered items, in case they are available, they are outsourced and made available. As soon the item is available, shipping is arranged to the address stated on the clients' order and the next and final step is processed. A delivery concluded and finalized a successful sale.

### 3.3. Prototype of an ERP system: using java scrip web responses

SA Luxury Clothing Pty Ltd



**Figure 3.** Prototype of an ERP system

Using a java script web responses as an ERP system to process sales and update stock. An order is placed by a customer, online or offline, the initial process takes the process to the regional server, where all stocks for that region is stored and constantly updated after every sale. The system is used by Facebook market as you mark the number of items you have in stock, after every sale update, the number goes down to indicate the amount of stock left. This happens automatically. Orders conducted offline are quicker and done of the sale point (Till). The system is connected to the regional data server so that it is updated every time a physical sale is conducted. When an order is done online, the systems check the ordered item on the system, if it is not available on the nearest shop from the order is received, it requests for an order to the next nearer shop. If the item is not available on the whole system, the order is cancelled, and no further process occurs. If the item is found within the system, regardless of the distance from the point of order, the system proceeds with the sale and requests for payment. Depending on the distance of the available stock from the order, the system will be manually updated for a delivery and the system will update the client/ customer of the delivery date and possible time. As soon as the item is confirmed, the system will send a notification to the sever as soon the item is sent for shipping, updating the remainder of the stock on the regional server without manual assistance. At the end of the delivery, collection the sale would have been completed and the amount of stock will be updated and ready for the next sale. This is the simplest process which would require a minimum subscription of R250 pm and more depending on the complexity of the system. It would save money and no further installing, or updates are required on the actuals system. The few disadvantages would be vulnerability to hacking which no ERP is full proof from.

## **Conclusion**

From solving a problem to establishing a multibillion-dollar enterprise used by many organizations all over the world, the ERP system has proved to be the most effective system for small, medium, and major enterprises. With costs above expectations and being the major costs of unemployment, the above study has proved beyond reasonable doubt that the ERP system has been the reason behind the thriving strategy of the retail sector. The web Java scrip used by take a lot, Facebook market and many other online stores, proves to be the next phase and game changer as indicated on our prototype above. It is efficient, timely and costs close to nothing. Apart from saving time and money, it allows sales to me conducted offline, in store and online simultaneously. Our system would prove to be the next solution to efficiency and cost management problems that the mostly used ERPs are unable to solve and manage. The integration between java script, which is mostly used for free, with an additional financial management software would be the ultimate software solution for the south African retail sector, with less costs, less time management, effective and limitless in logs. Our estimated cost for

an advanced java script ran software with background financial management cost nothing more than R10 000 a month, depending on the organization. This makes our prototype suitable for big a small enterprise without financial suffocation.

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