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Information Systems Improvements

AKPerog Ltd. – Overcoming
Operational Challenges

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Contents

1. Introduction	2
2. Evaluation of Existing Systems	3
3. Recommended Solution	4
4. Implementation Plan.....	7
5.Conclusion.....	9
References	10

Proposal for Modernizing AKPerog Ltd.'s Information Systems

1. Introduction

Overview of the Business Case/Scenario

AKPerog Ltd., a fast-growing consumer electronics retailer with 30 physical stores and a robust e-commerce presence, is at a critical juncture. While **sales and expansion are emerging**, the underlying information systems infrastructure is brittle, inefficient, and presents significant operational and compliance risks. The company operates in a demanding retail environment that requires real-time inventory visibility and personalized customer engagement, both of which are currently hampered by fragmented, manual, and outdated systems. This proposal outlines the core challenges and recommends a strategic, modern solution to support AKPerog Ltd.'s continued growth and secure its operational future.

1.2. Identification of Key Challenges

Our preliminary analysis identifies five core challenges that form a vicious cycle of inefficiency:

1. **Ineffective Inventory Management:** A manual, non-integrated inventory system causing stock discrepancies, leading to customer dissatisfaction, financial losses from over/understocking, and fulfilment delays.
2. **Customer Relationship Management (CRM) and Marketing:**
 - **Fragmented Customer Data:** Customer records are scattered across multiple, disconnected systems.
 - **Inefficient Customer Service:** Support staff lack immediate access to complete purchase histories, slowing down complaint resolution.
 - **Ineffective Marketing:** The inability to track purchase history prevents personalized, targeted promotions.
3. **Ineffective Data for Decision-Making:** The manual compilation of reports in spreadsheets is a source of data latency and error. As a result, leadership lacks a timely, trusted foundation for analysing sales trends, generating accurate forecasts, and making agile strategic choices.

4. **Non-Compliance and Security Risks:**

- **Data Protection Risk:** Non-compliance with regulations like **GDPR** due to a lack of secure access controls.
- **Cyber Threat Exposure:** The outdated system increases the risk of unauthorized access.

5. **Departmental Silos and Lack of Integration:** Disparate software systems for sales, finance, and inventory force manual data re-entry, wasting time, increasing error rates, and creating organizational bottlenecks.

These challenges are interconnected; resolving them requires a holistic, integrated approach rather than piecemeal software fixes.

2. Evaluation of Existing Systems

2.1. Analysis of Current Information Systems

AKPerog Ltd. operates on a fragmented IT landscape reliant on manual spreadsheet workflows. This siloed architecture inhibits efficiency, compromises data reliability, and limits strategic agility.

- **Inventory:** Manual ledgers or a standalone, basic software package not linked to the e-commerce platform or Point-of-Sale (POS) systems in stores.
- **Sales and E-commerce:** An online shopping platform operating independently, and possibly varied POS systems across stores.
- **CRM and Customer Data:** Data stored in spreadsheets, within the e-commerce platform's backend, and possibly in the email marketing tool, with no synchronisation.
- **Reporting and Finance:** Microsoft Excel as the primary tool for consolidating data from these disparate sources, with a separate accounting package.

2.2. Identification of Inefficiencies and Gaps

This architecture creates significant inefficiencies and critical gaps:

- **Data Inconsistency and Latency:** The same data (e.g., product stock levels, customer details) exists in multiple versions across the organisation. The manual

transfer process ensures this data is never fully synchronised, leading to the reported discrepancies. (None Olamide Raimat Amosu et al., 2024)

- **Limited Process Automation:** Core business processes order fulfilment, stock replenishment, sales reporting are manual. This is a direct contributor to delays, high labour costs, and errors, as human intervention is required at every stage (Davenport, 2018).
- **Absence of a "Single Source of Truth":** There is no centralised repository where accurate, real-time information on inventory, customers, or finances can be accessed by authorised personnel. This forces managers to make decisions based on intuition or stale data.
- **Poor Data Analytics Capability:** The current state offers no possibility for advanced analytics, real-time dashboards, or predictive insights. The company cannot move from reactive reporting to proactive decision-making (Provost and Fawcett, 2013).

Inadequate Security and Compliance Framework: Disparate systems with weak access controls exponentially increase the attack surface for data breaches. The inability to track where customer data resides or how it is used is a clear GDPR violation, risking substantial fines. (NCSC, 2018)

3. Recommended Solution

Proposal of a Suitable New or Upgraded Information System

A phased implementation of a modern, cloud-based Enterprise Resource Planning (ERP) ecosystem(Perkins, 2020). The proposed solution integrates a dedicated Customer Relationship Management (CRM) module and a Business Intelligence (BI) analytics platform on a unified cloud architecture. Leading vendors for evaluation including Microsoft Dynamics 365, SAP S/4HANA Cloud, and Oracle NetSuite offer such integrated suites, which provide comprehensive functional coverage.(See, 2022) This cohesive model operates from a common database, ensuring data consistency and enabling seamless, automated workflows across all business functions. (Salesforce, 2024)

3.2. Justification for the Recommendation

A modern, integrated ERP system is the only viable solution to address the systemic fragmentation and manual dependencies identified.

- **Based on Business Needs:** The ERP's unified commerce platform directly resolves chronic stock discrepancies by establishing a single, authoritative source of inventory truth. This capability unlocks advanced fulfilment models such as Click and Collect and Ship-from-Store, strategically transforming physical retail locations from potential liabilities into integrated, revenue-generating nodes within the omnichannel network.
- **Based on Efficiency: Data is entered once** and available immediately across all departments. This eliminates the manual transfer of data between Sales, Finance, and Inventory, saving significant staff time and reducing errors a key benefit known as "single-source-of-truth" (Davenport, 2018).
- **Cost-Effectiveness:** Cloud-based SaaS (Software-as-a-Service) models offer a predictable operational expenditure (OpEx) instead of large upfront capital investment. They reduce the need for extensive in-house IT infrastructure and maintenance. The return on investment (ROI) will be realised through reduced stock holding costs, lower labour costs for manual processes, decreased lost sales, and avoided regulatory fines (Marston et al., 2011).
- **Scalability:** Cloud ERP systems are inherently scalable. As AKPerog expands to new locations or increases its online sales volume, the system can seamlessly accommodate growth by adding users, stores, or data capacity without significant hardware upgrades.

3.3. How the System Will Improve Operations

- **Inventory Control and Order Fulfilment:** The integrated Inventory Management System (IMS) establishes real-time visibility and control over stock. This capability allows for the immediate allocation of inventory to customer orders upon receipt, thereby mitigating the risk of stock-related order cancellations and improving overall fulfilment cycle times. (Indeed Career Guide, 2025)
- **Integration:** The platform enforces standardized workflows, creating seamless integration across functions. For example, a single sales transaction via the Point-of-Sale (POS) system triggers a synchronized update to inventory records, the financial ledger, and the customer's profile in the CRM, all in real-time, ensuring data integrity and operational cohesion.

- **Data Management and CRM:** The integrated **CRM module** will create a 360-degree customer view. Every interaction, website visit, in-store purchase, customer service call, marketing email click will be logged against a single customer record. This enables personalised loyalty programmes, targeted email campaigns based on purchase history, and empowers support agents with complete context.
- **Improvement in Decision-Making**
- **Real-Time Business Intelligence:** The integrated Business Intelligence (BI) platform delivers strategic visibility through dynamic dashboards, providing management with real-time analytics on critical performance indicators. This enables continuous monitoring of key metrics such as sales by channel, inventory turnover, and customer lifetime value (CLV) to support data-driven decision-making.
- **Enhanced Forecasting:** By analysing unified historical sales data and integrating external factors (seasonal trends), the ERP's planning tools can generate **accurate demand forecasts**, leading to optimized purchasing, reduced carrying costs, and fewer lost sales. (Chopra, 2016).

Compliance and Security: A modern ERP provides robust, role-based access controls, detailed audit logs of all data interactions, and tools to manage data subject requests (e.g., "right to be forgotten" under GDPR). Data is encrypted both in transit and at rest within the vendor's secure cloud data centres, significantly mitigating security risks. (NCSC, 2018)

4. Implementation Plan

The implementation of an integrated ERP system is a significant undertaking that requires careful planning, change management, and phased execution. The recommended methodology is a **Phased Approach** (also known as a Rollout Strategy), prioritizing critical functionality first.

Phase 1: Foundation & Planning (Months 1-2)

- **Project Team:** Form a steering committee with executive sponsorship (CEO/COO), an internal project manager from AKPerog, and consultants. Include key departmental representatives.
- **Requirements Finalisation and Vendor Selection:** Conduct detailed workshops to map all "as-is" and "to-be" processes. Finalise the choice of ERP vendor based on a weighted scorecard evaluating functionality, cost, and support.
- **Data Cleansing & Migration Strategy:** Begin the critical task of cleansing legacy data (inventory, customer lists) and planning its migration to the new system.

Phase 2: Core ERP Implementation (Months 3-8)

- **Pilot Deployment:** Implement the core ERP modules (Finance, Inventory Management, Procurement) in a pilot group of 5-7 stores and the head office. This allows for testing and refinement.
- **Integration Development:** Build and test APIs to integrate the new ERP with the existing e-commerce platform and any essential legacy systems during the pilot.
- **Training:** Develop training materials and conduct intensive, role-based training for pilot users.

Phase 3: CRM and BI Rollout and Full Go-Live (Months 9-12)

- **Group Rollout:** Roll out the core ERP to the remaining stores in manageable waves.
- **CRM and BI Activation:** Implement the CRM and BI modules across the entire organisation, connecting them to the now-live ERP data.
- **Full Integration:** Complete the integration of the e-commerce platform, ensuring real-time, bi-directional data flow.

Phase 4: Stabilisation & Optimisation (Months 13+)

- **Go-Live:** The new system replaces the legacy systems.
- **Hypercare Support:** An intensified support period to quickly address post-implementation issues.
- **Post-Implementation Review:** Audit the system against the original business objectives and identify areas for process refinement and system optimization.
- **Advanced Training and Benefits Realisation:** To ensure the effective adoption of the new integrated system, an advanced training program on analytics and reporting will be conducted. Concurrently, a formal framework for tracking Key Performance Indicators (KPIs)—such as inventory accuracy, order fulfilment cycle time, and report generation efficiency—will be implemented to quantitatively measure the initiative's return on investment.
- **Consideration of Potential Challenges:**
- **Change Management:** Resistance from staff accustomed to old ways is the biggest risk. Mitigated through clear communication, involvement in the process, and comprehensive training (Kotter, 1996).
- **Data Migration:** Legacy systems often contain inconsistent, incomplete, or obsolete data, making the migration of vital historical records a high-risk activity.
- **Required Action:** A structured Data Governance framework must be established to lead a comprehensive data assessment, cleansing, and mapping exercise as a prerequisite for any technical migration to the new ERP platform.
- **E-commerce Platform:** The proposed architecture involves integrating the current e-commerce platform which remains functionally adequate with the new ERP system through robust Application Programming Interfaces (APIs). This design maintains the platform's role as the customer-facing "front-end," while the ERP assumes responsibility for all core "back-end" operations, including real-time inventory synchronization, order routing, and fulfilment execution. (Linkedin, 2025)
- **Business Disruption:** Phased rollout and a pilot minimise operational downtime.
- **Cost Overage:** A fixed-scope, fixed-price consulting engagement with clear milestones will control costs.

5. Conclusion

5.1. Summary and Expected Benefits

AKPerog Ltd.'s growth ambitions are being held back by its technological infrastructure. The recommended implementation of an integrated, cloud-based ERP system with CRM and BI capabilities is not merely an IT upgrade but a transformational business initiative. It will replace fragmented, error-prone processes with streamlined, automated workflows, creating a single source of truth for the entire organisation.

The expected benefits are substantial:

- **Operational:** >50% reduction in stock discrepancies, faster order fulfilment, and lower inventory holding costs.
- **Commercial:** Enhanced customer satisfaction and loyalty through personalised engagement and reliable service.
- **Strategic:** Empowered leadership with real-time, actionable insights for better forecasting and competitive strategy.
- **Compliance:** A robust framework for data protection, significantly reducing legal and reputational risks.

By making this strategic investment, AKPerog Ltd. will move from fighting daily operational issues to a position of competitive advantage, leveraging accurate data and streamlined processes to enhance the customer experience and accelerate market expansion. (Google Books, 2025)

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