# Discussion Forum Unit 12

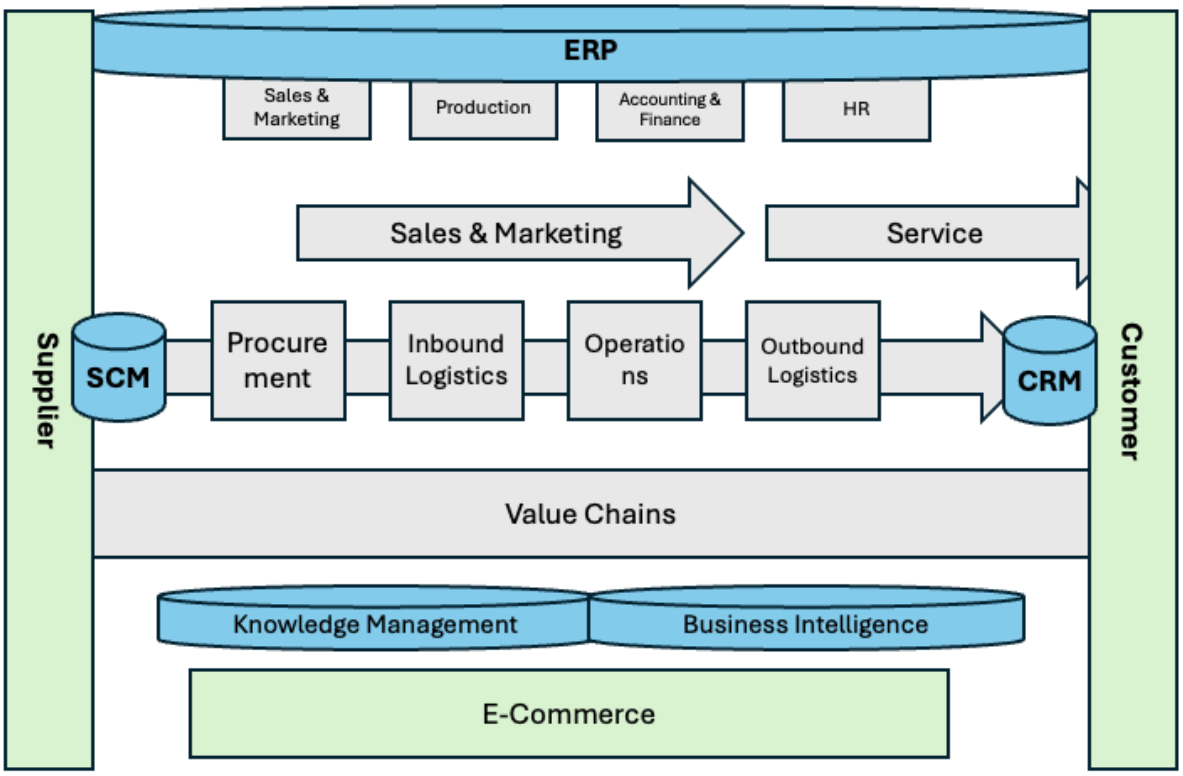


Figure 1: ERP Conceptual Model (Hamberger, 2025)

**Description:**

The diagram presents a conceptual model of an Enterprise Resource Planning (ERP) system, adapted from Chan, Abu Khadra, and Alramahi (2011), which emphasizes the evolution of ERP into an extended, integrative system often referred to as ERP II. This model highlights the central role of ERP in coordinating internal business functions while connecting both upstream supplier activities and downstream customer-facing processes within a unified digital infrastructure.

At the top of the model, the core ERP system is depicted as encompassing the essential operational domains**:** Sales and Marketing**,** Production**,** Accounting and Finance**,** and Human Resources (HR)**.** These modules are integrated within a centralized ERP framework, ensuring the consistent flow of information and enabling process automation, standardization, and cross-departmental transparency.

The heart of the model focuses on the firm's value chain, adapted from Porter's framework, consisting of sequential business processes starting with Procurement, moving through Inbound Logistics, Operations, Outbound Logistics, and culminating in Sales and Customer Service.

To the left and right of this chain are two critical external subsystems: Supply Chain Management (SCM) and Customer Relationship Management (CRM). These systems serve as bridges to the broader enterprise ecosystem. Further, their integration into the ERP environment ensures that the organization maintains strong,

data-driven relationships with both suppliers and customers, enabling end-to-end value optimization.

Beneath the operational flow, the model incorporates Knowledge Management and Business Intelligence functions. These modules reflect the organization's capacity to capture institutional knowledge, analyze performance data, and transform insights into strategic improvements. By embedding analytical tools within the ERP framework, companies can continuously monitor KPIs, forecast demand, and evaluate business risks.

Finally, the entire system rests upon an E-Commerce platform**,** which enables digital transactions, supports real-time customer interaction, and aligns ERP capabilities with the growing demands of online business environments. This foundational layer illustrates the modern ERP system's role not only as an internal coordinator but also as a gateway to global, web-based commerce.

**References:**

Hamberger, G. (2025) Discussion Forum Week 12 Data Sciene 2025. Submitted to the University of Essex Online.

Chan, J., Abu Khadra, H., & Alramahi, N. (2011). *ERP II Readiness in Jordanian Industrial Companies*. *Communications of the IIMA*, 11(3). https://doi.org/10.58729/1941-6687.1163

**Respond Post:**

Thank you Nelson for your contribution.

Your ERP conceptual model effectively outlines a classic three-tier architecture that balances modularity and usability, particularly with its modern web and mobile frontends. However, from a data-centric and ERP 2.0 perspective, there are some important considerations to discuss.

While supporting multiple relational databases ensures flexibility, today's ERP systems must handle much more diverse and real-time data sources. ERP 2.0 increasingly integrates big data, streaming data, and cloud-based data lakes to enable advanced analytics and real-time decision-making (Chan, Abu Khadra & Alramahi, 2011). Your model could benefit from explicitly including such hybrid data storage approaches alongside traditional transactional databases.

Moreover, ERP 2.0 emphasizes collaborative processes and ecosystem integration through APIs and data services (Chan et al., 2011). Incorporating these into the Business Logic Layer would improve flexibility and enable seamless connectivity with external systems, enhancing adaptability and user-driven innovation.

Finally, considerations around data governance, security, and compliance are paramount in modern ERP architectures but seem absent from your model. Embedding mechanisms for access control, audit trails, and regulatory compliance

ensures the system's integrity and trustworthiness in today's complex business environments (Laudon & Laudon, 2020).

In summary, your architecture is a strong foundation, but expanding it to address data diversity, collaborative integration, and governance would enhance your model and bring it closer to the evolving requirements of modern enterprise systems.

**References:**

Chan, J., Abu Khadra, H., & Alramahi, N. (2011). ERP II Readiness in Jordanian Industrial Companies. *Communications of the IIMA*, 11(3). https://doi.org/10.58729/1941-6687.1163

Laudon, K.C. & Laudon, J.P. (2020). *Management Information Systems: Managing the Digital Firm*. 16th ed. Pearson.

Monk, E. & Wagner, B. (2013). *Concepts in Enterprise Resource Planning*. 4th ed. Cengage Learning.