

Enterprise Resource Planning (ERP)

MINGGU 2 – SISTEM ENTERPRISE

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Referensi

Vivek Kale (2016), **Enhancing Enterprise Intelligence.**

Brady, Monk, Wagner (2001), **Concepts in Enterprise Resource Planning.**

<https://www.erp-information.com>

<https://www.odoo.com/documentation/16.0/>

<https://www.synconics.com>

Enterprise Systems

An information system that **integrates business processes** with the aim of **creating value** and **reducing costs** by making the right information available to the right people at the right time to help them make good decisions in **managing resources proactively and productively**.

Enterprise Stakeholders

An enterprise is defined by a constellation of collaborations.

Primary stakeholders are those entities that are effected directly by the success or decline of a company.

- Investors, financial institutions, customers, suppliers/vendors, employees, and so on.

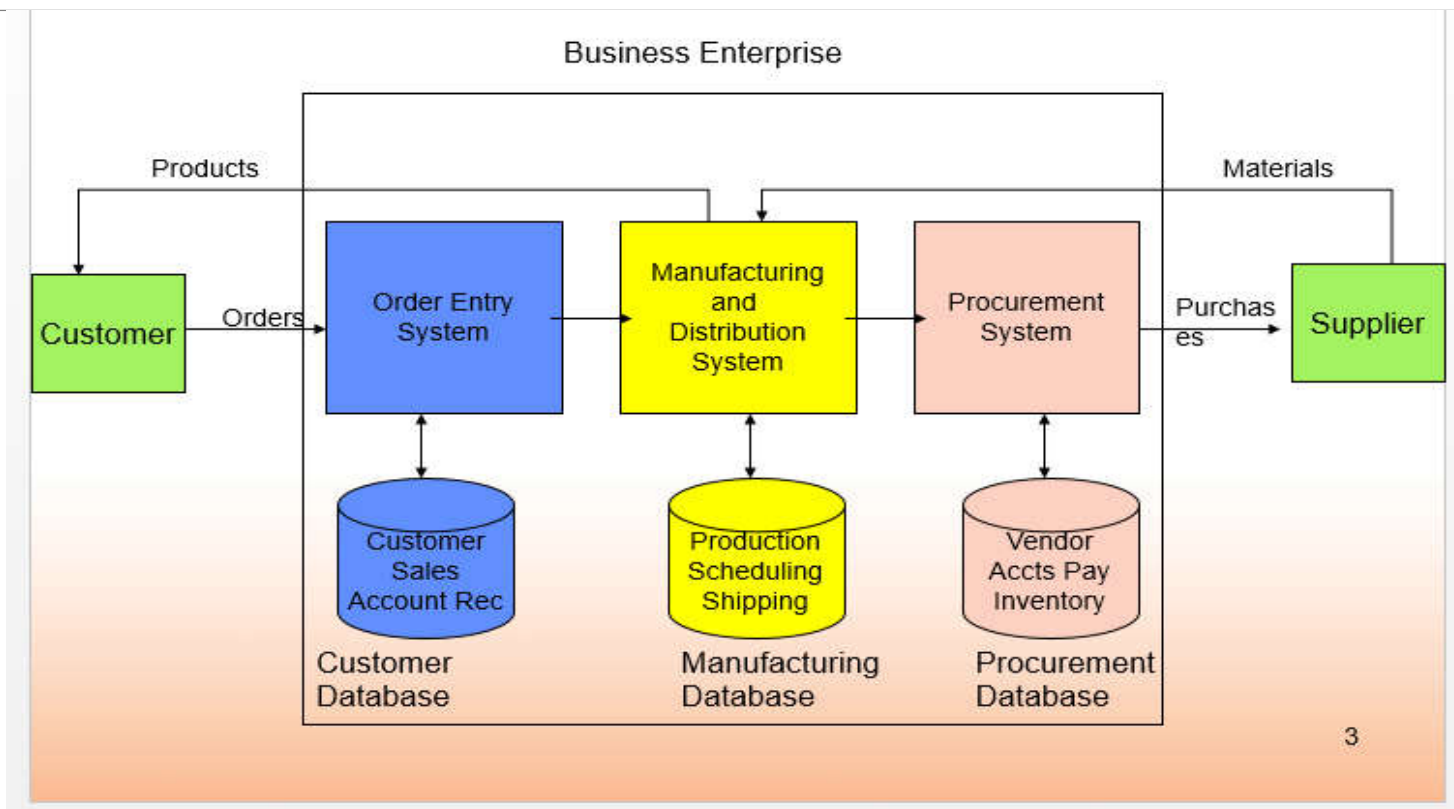
Secondary stakeholders are affected indirectly by the varying fortunes of the company, but they definitely exercise influence on the functioning of the company. Sometimes this influence may not only exceed the influence of the primary stakeholders, but may also prove to be decisive for the enterprise.

- The media, government, and regulatory agencies

The five stakeholders of primary importance

- Customer, Investors, Vendors, Managers, • Employees
- 

Traditional Information System with Closed Database Architecture



History of Information Systems Within Organizations

Name	Era	Scope	Perspective	Example	Technology Symbols
Calculation systems	1950–1980 (Your grandfather)	Single purpose	Eliminate tedious human calculations. “Just make it work!”	Payroll General ledger Inventory	Mainframe Punch card
Functional systems	1975–20?? (Your mother)	Business function	Use computer to improve operation and management of individual departments.	Human resources Financial reporting Order entry Manufacturing (MRP and MRP II)	Mainframe Stand-alone PCs Networks and LANs
Integrated systems (also cross-functional or process-based systems)	2000 ... (You)	Business process	Develop IS to integrate separate departments into organization-wide business processes.	Customer relationship management (CRM) Enterprise resource planning (ERP)	Networked PCs Client-servers The Internet Intranets

Evolution of Enterprise Systems


System	Primary Business Need(s)	Scope	Enabling Technology
MRP	Efficiency	Inventory management and production planning and control	Mainframe computers, batch processing, traditional file systems
MRP II	Efficiency, effectiveness, and integration of manufacturing systems	Extending to the entire manufacturing firm (becoming cross functional)	Mainframes and minicomputers, real-time (time-sharing) processing, database management systems (relational)
ERP	Efficiency (primarily back office), effectiveness, and integration of all organizational systems	Entire organization (increasingly cross functional), both manufacturing and nonmanufacturing operations	Mainframes, mini- and microcomputers, client/server networks with distributed processing and distributed databases, data warehousing, mining, knowledge management
ERP II	Efficiency, effectiveness, and integration within and among enterprises	Entire organization extending to other organizations (cross functional and cross enterprise partners, suppliers, customers, etc.)	Mainframes, client/server systems, distributed computing, knowledge management, Internet technology (includes intranets, extranets, portals)
Interenterprise Resource Planning, Enterprise Systems, Supply-Chain Management, or whatever label gains common acceptance	Efficiency, effectiveness, coordination, and integration within and among all relevant supply-chain members as well as other partners or stakeholders on a global scale	Entire organization and its constituents (increasingly global and cross cultural) comprising global supply chain from beginning to end as well as other industry and government constituents	Internet, Service Oriented Architecture, Application Service Providers, wireless networking, mobile wireless, knowledge management, grid computing, artificial intelligence

Enterprise Resource Planning (ERP)

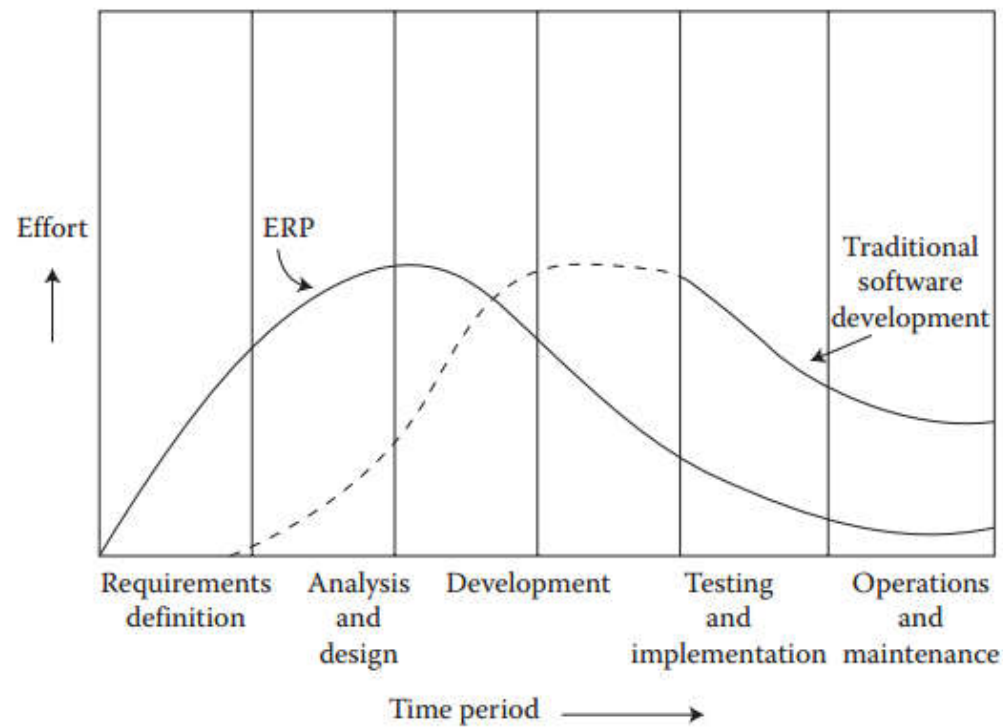
Comprised of multi-module application software packages that serve and support multiple business functions.

These large automated cross-functional systems were designed to bring about improved operational efficiency and effectiveness through integrating, streamlining, and improving fundamental back-office business processes.

The main focus of ERP has been to integrate and synchronize the isolated functions into **streamlined business processes**.




ERP and Traditional Software Development Life Cycle



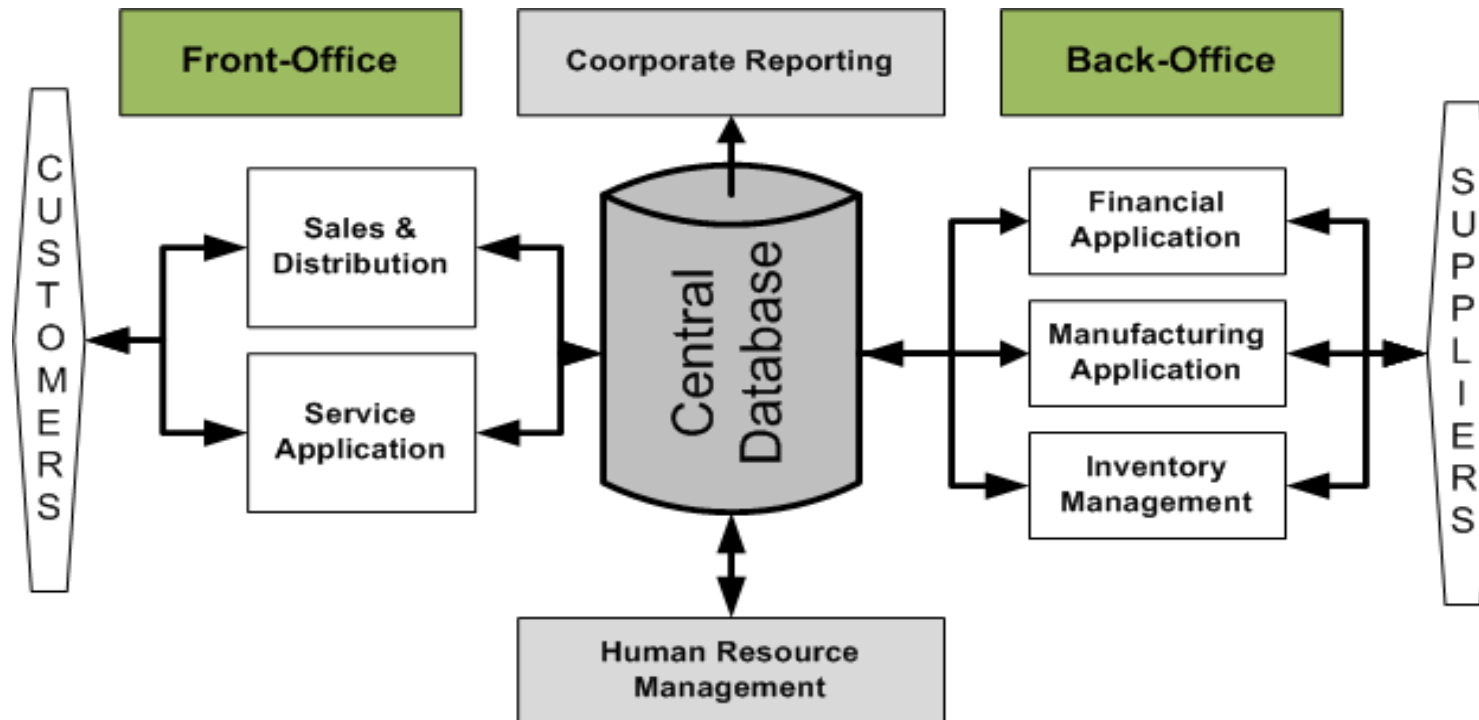
ERP Software Application Package

A suite of pre-engineered, ready-to-implement integrated application modules catering to all the business functions of an enterprise and which possesses the flexibility for configuring and customizing dynamically the delivered functionality of the package to suit the specific requirements of the enterprise.

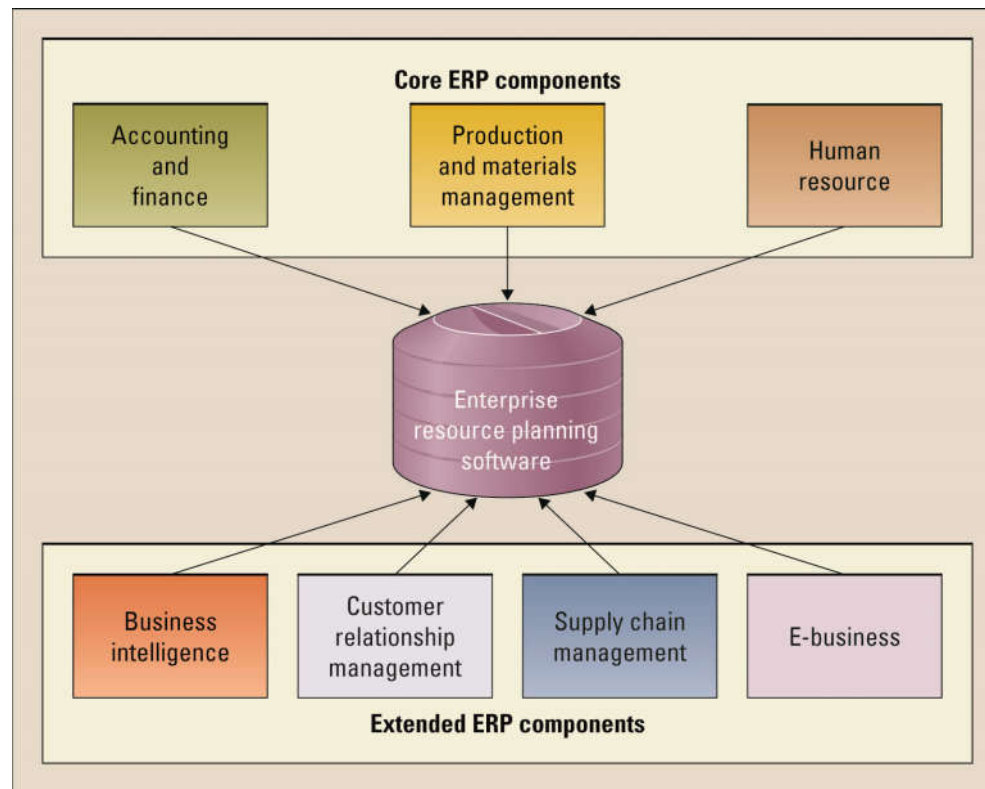
ERP enables an enterprise to operate as an integrated enterprise-wide process-oriented information-driven real-time enterprise.



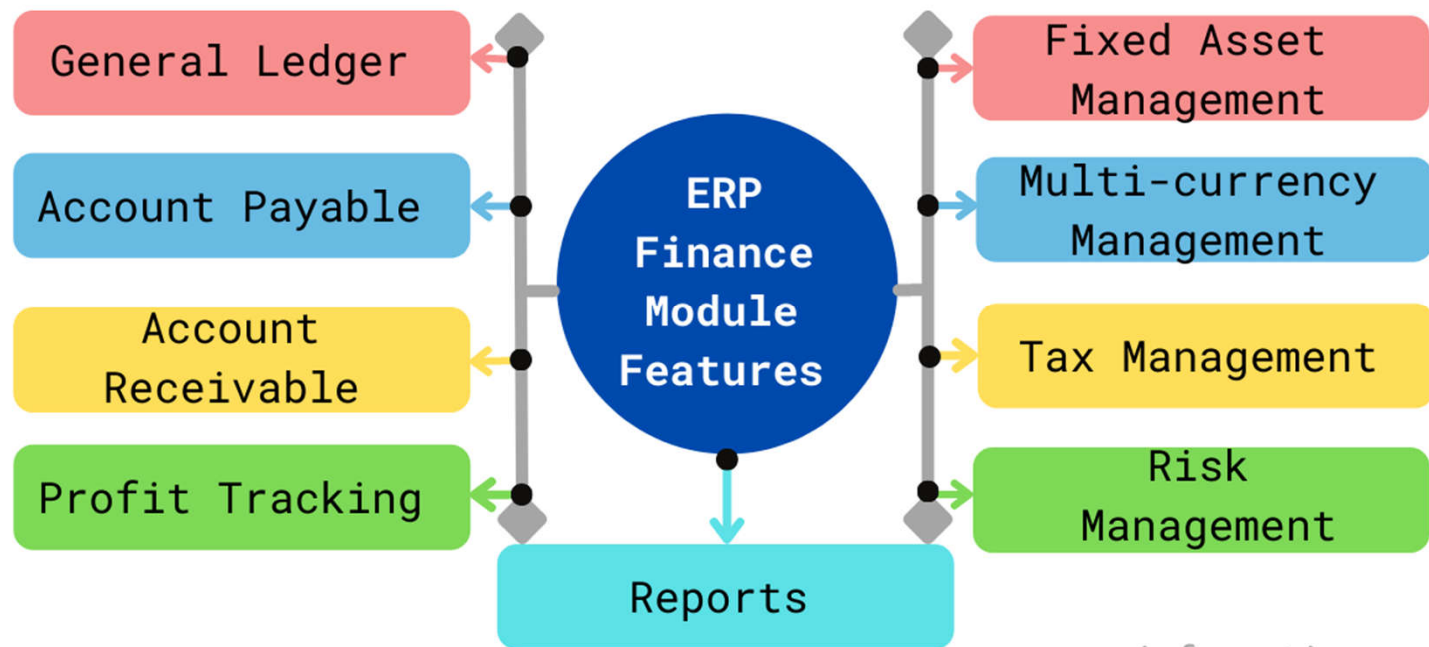
Basic Structure of ERP



Core and Extended ERP Component

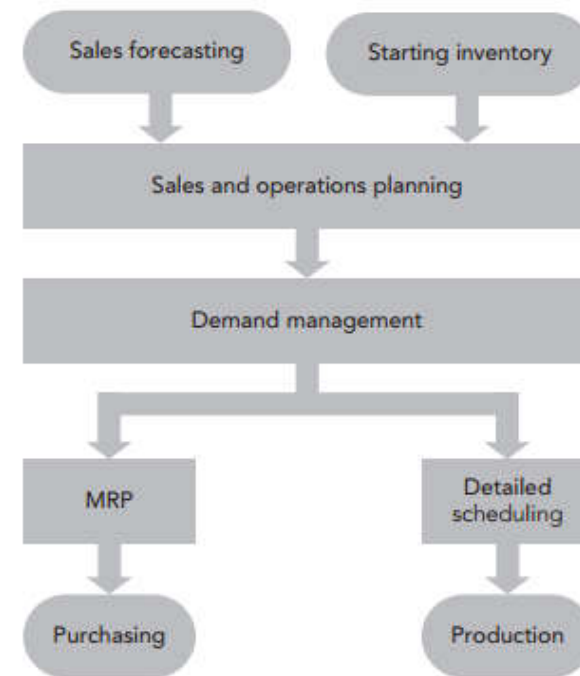
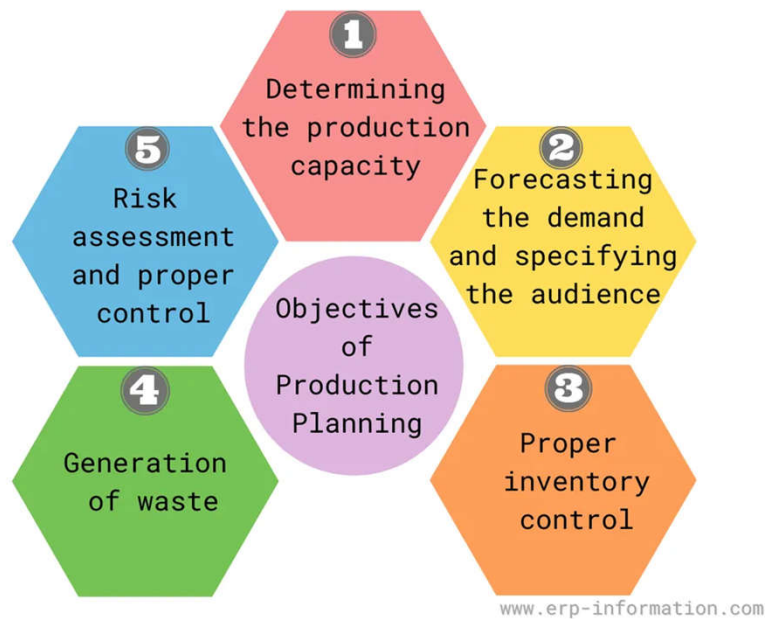


ERP Finance Module



www.erp-information.com

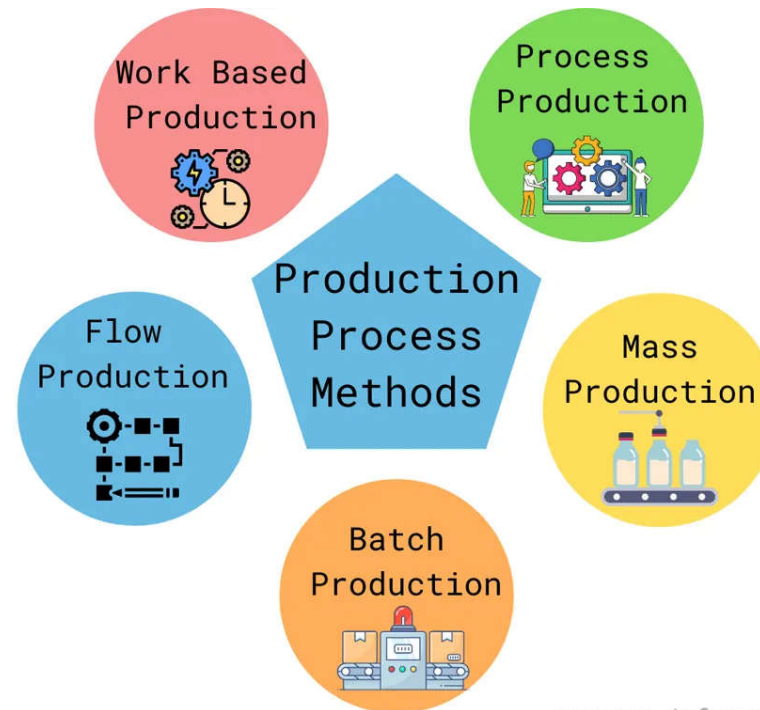
ERP Production Planning Module



Source Line: Course Technology/Cengage Learning.

FIGURE 4-2 The SAP ERP production planning process

Types of The Production Planning Process in ERP



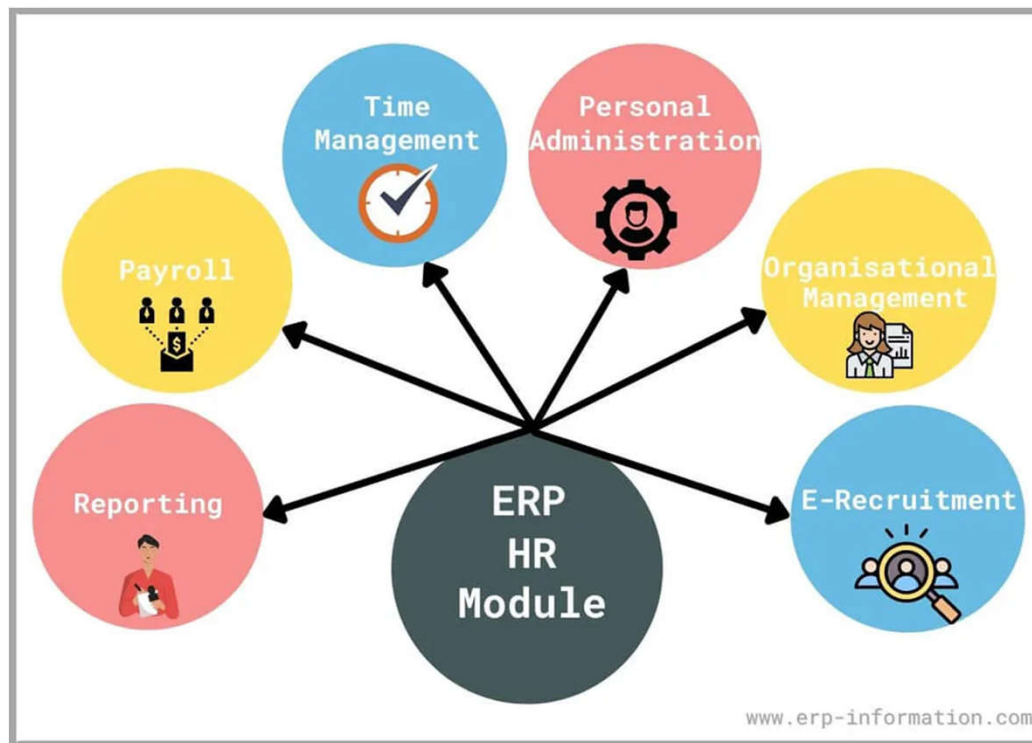
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ERP Inventory Management Module




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ERP Human Resource Module



Characteristics of ERP

1. ERP transforms an enterprise into an information-driven enterprise.
 2. ERP fundamentally perceives an enterprise as a global enterprise.
 3. ERP reflects and mimics the integrated nature of an enterprise.
 4. ERP fundamentally models a process-oriented enterprise.
 5. ERP enables the real-time enterprise.
 6. ERP elevates IT strategy as a part of the business strategy.
 7. ERP represents a major advance on the earlier manufacturing performance improvement approaches.
 8. ERP represents the new departmental store model of implementing computerized systems.
 9. ERP is a mass-user-oriented application environment.
- 

Advantages of ERP (1)

Reconciling and optimizing the conflicting goals of different divisions or departments; the transparent sharing of information with all concerned departments also enables cross-functional collaboration that is essential for the success of the millennium enterprise standardization of business processes across all the constituent companies and sites, thus increasing their efficiencies.

Ability to know and implement **global best practices**.

Altering the function-oriented organization toward a more **team-based cross-functional process-oriented** enterprise, thus leading to a more flexible, flatter, and tightly integrated enterprise.

ERP provides a responsive medium for undertaking all variants on **process improvement** programs and methodologies including process innovation, process improvement, and business process redesign.

ERP provides a responsive medium for **quality improvement and standardization** efforts including QC, QA, and TQM.



Advantages of ERP (2)


ERP being process-oriented is a fertile ground for implementing **activity-based management (ABM)** efforts, be it for budgeting, costing, efficiency, or quality.

ERP provides the best conduit for **measuring the benefits** accruing to enterprises by their implementation by monitoring the ROI of not only money but also manpower, materials, time, and information. This could be in terms of various parameters such as cost, quality, responsiveness, and cycle time.

ERPs, because they customarily implement best-of-class practices, provide the **best means for benchmarking the organization's competitiveness**.

An ERP enables an enterprise to **scale up its level of operations** drastically or even enter into different businesses altogether without any disruption or performance degradation.

Real-time creation of data directly during the actual physical transaction or processes by the persons who are actually responsible for it.



Advantages of ERP (3)

Pushing the latest data and status to the actual operational-level persons for **better and faster decisions** at least on routine issues; empowering and giving ownership to the operational personnel at the level of actual work (this automatically does away with problems associated with collection of voluminous data, preparation, entry, corrections of inaccuracies, backup, etc.).

Integration of the data of the enterprise into a **single comprehensive database**.

Online availability of correct and up-to-date data.




Information as the New Resource

Value Determinants of Competitive Strategies:

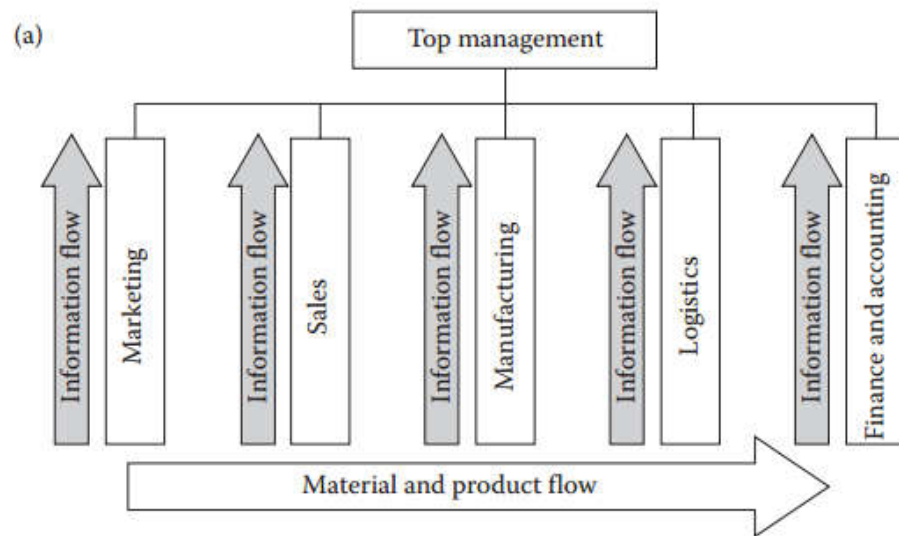
1. Cost (ownership, use, training support, maintenance, etc.)
2. Time (cycle time, lead time, etc.)
3. Response time (lead time, number of handoffs, number of queues, etc.)
4. Flexibility (customization, options, composition, etc.)
5. Quality (rework, rejects, yield, etc.)
6. Innovation (new needs, interfaces, add-ons, etc.)
7. **Information** (correctness, currency, consistency, completeness, clarity, compliance, availability, security, etc.)

Example:

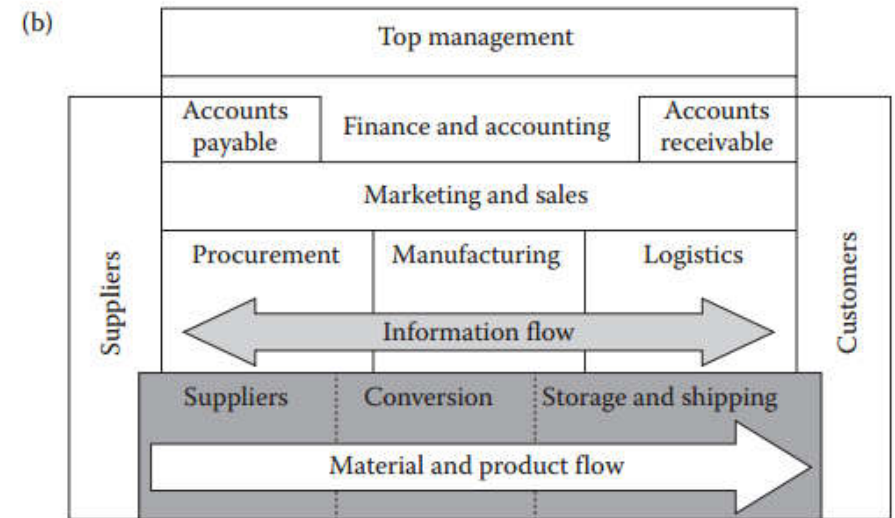
The availability of detailed and up-to-the-minute information on production runs can result in up-to-the-minute information on.....

- Production plan for the next run
 - Hence, material requirements for the next run
 - Hence, issue of materials from the main stores for the next run
 - Hence, stock at hand in the stores for the next run
 - Hence, material to be ordered for the next run
- 
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Information and Material flows

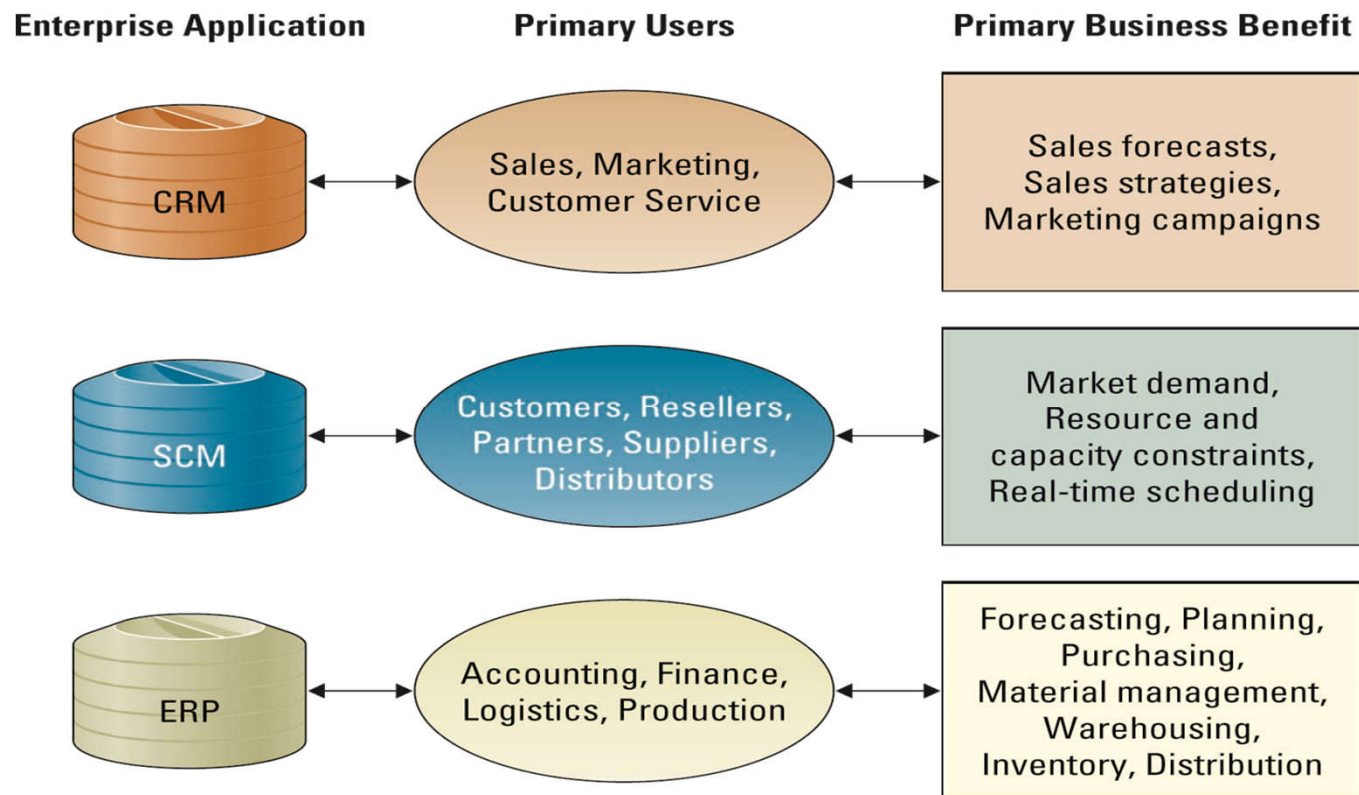


(a) functional business model

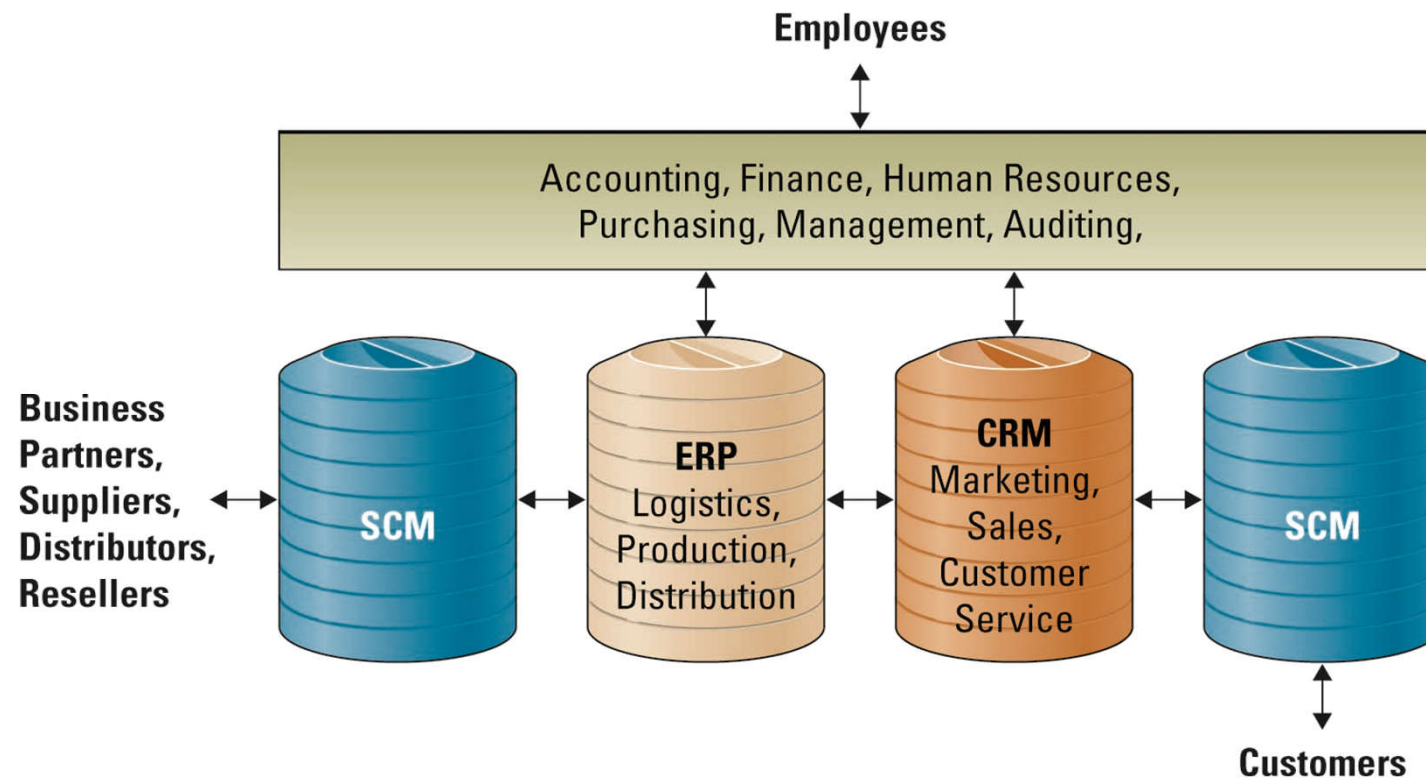


(b) a business process model

The Connected Corporation



Enterprise Application Integration



ERP Vendors



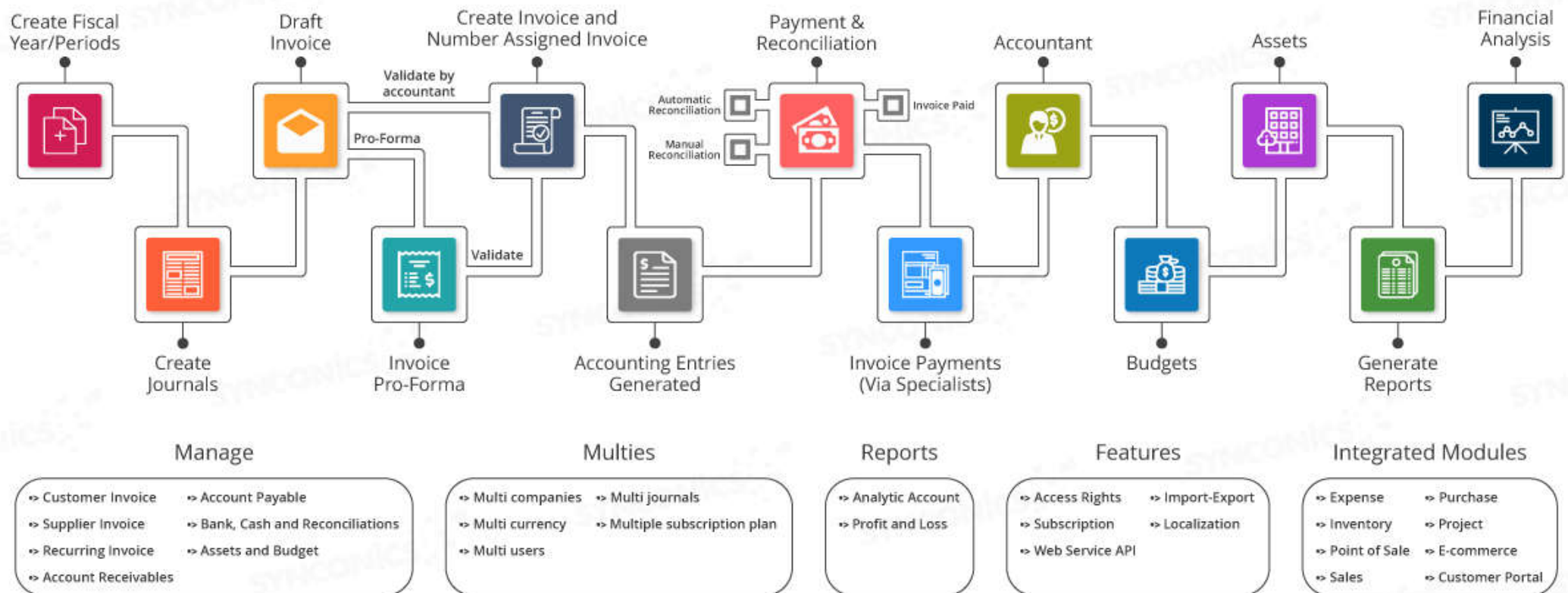
Odoo ERP Software

- An all-in-one management software that offers a range of business applications that form a complete suite of enterprise management applications.
- The Odoo solution is ideal for SMEs, but fits both small and large companies alike.
- Odoo is an all-in-one business software capable of covering all business needs, including CRM, Website/e-Commerce, billing, accounting, manufacturing, warehouse- and project management, and inventory, all seamlessly integrated.

Odoo Modules



Odoo Accounting Module



Invoicing

Sales Orders > SO010

Save

Discard

4 / 8 < >

Send by Email

Print

Cancel

Set to Done

Sale Order

Quotation

Quotation Sent

Sale Order

Done

SO010

Customer

DIGITAL EXPRESS, Jan Walton

France

Analytic Account

Pricelist

Expiration Date

Payment Term

Delivery Method

1 Delivery

1 Invoices

Public Pricelist (USD)

End of Following Month

Order Lines

1-1 of 1

Product	Description	Ordered Qty	Delivered	Invoiced	Unit Price	Taxes	Discount (%)	Subtotal	
* [A1232] iPad Mini (2.4 GHz)	[A1232] iPad Mini - Color: White - Capacity: 16GB	1,000	1,000	1,000	320.00		0.00	320.00	

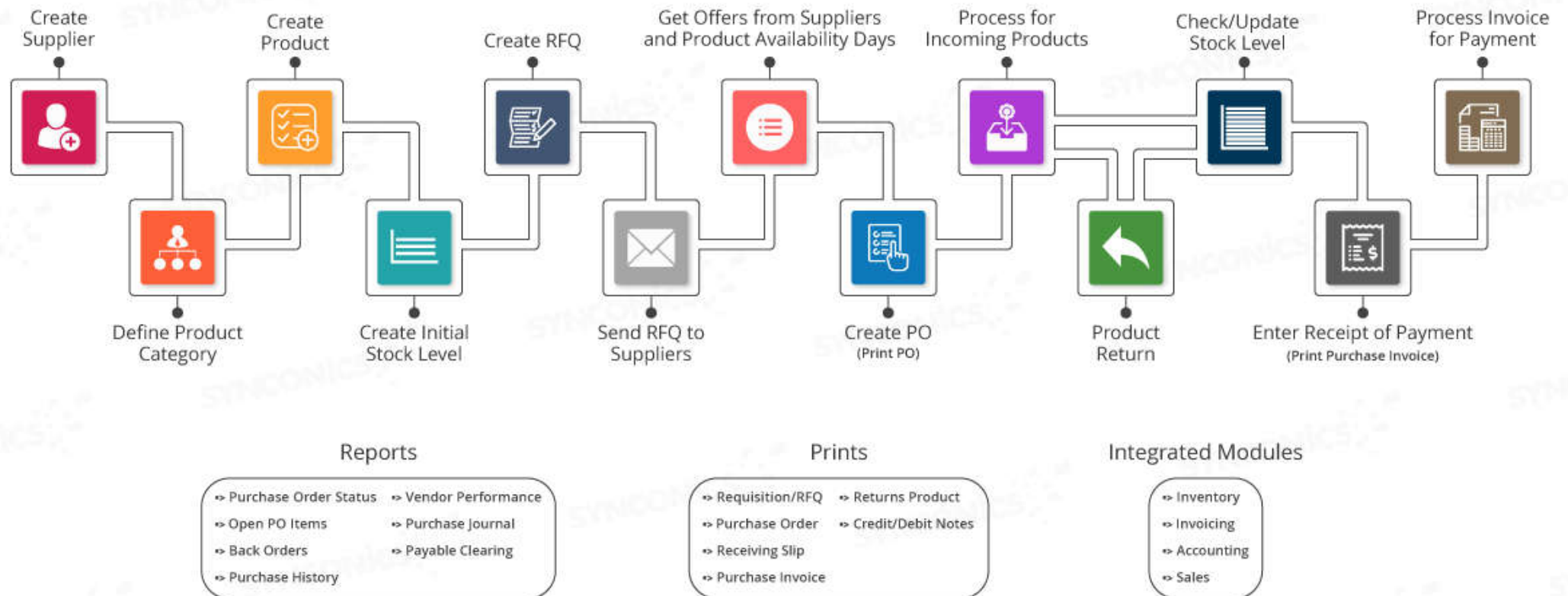
Setup default terms and conditions in your company settings.

Untaxed Amount : \$ 320.00

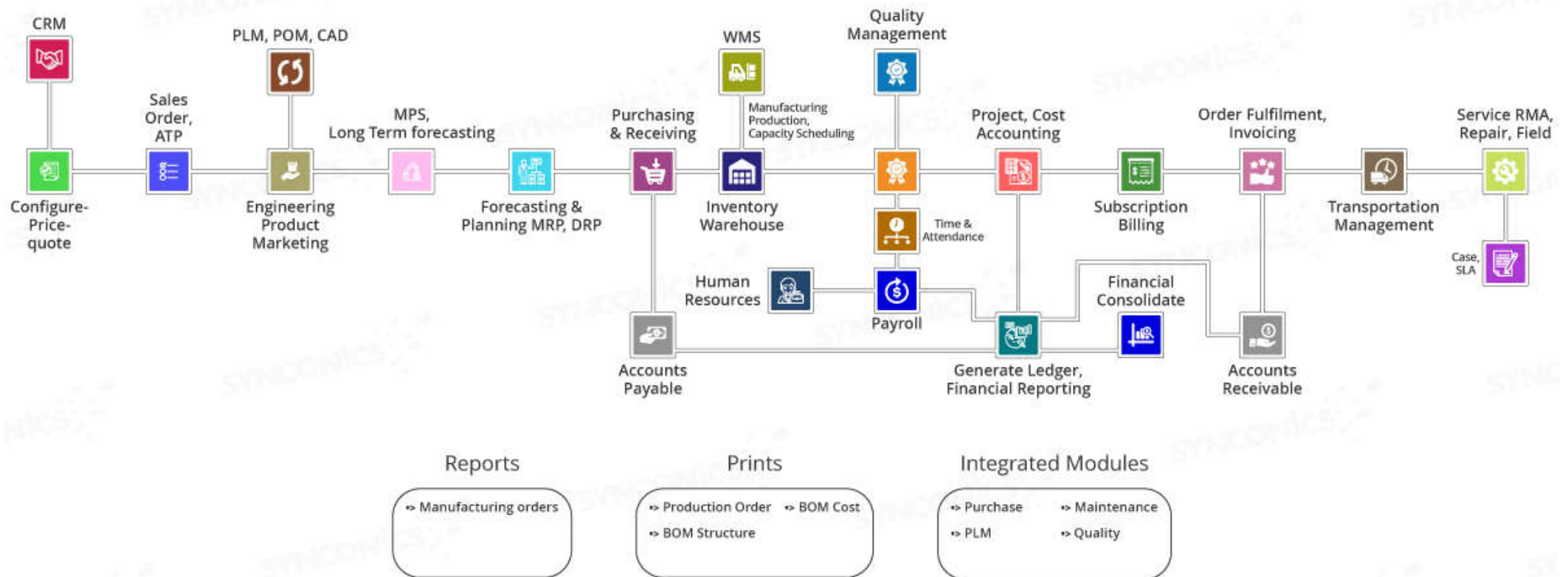
Taxes : \$ 0.00

Total : \$ 320.00

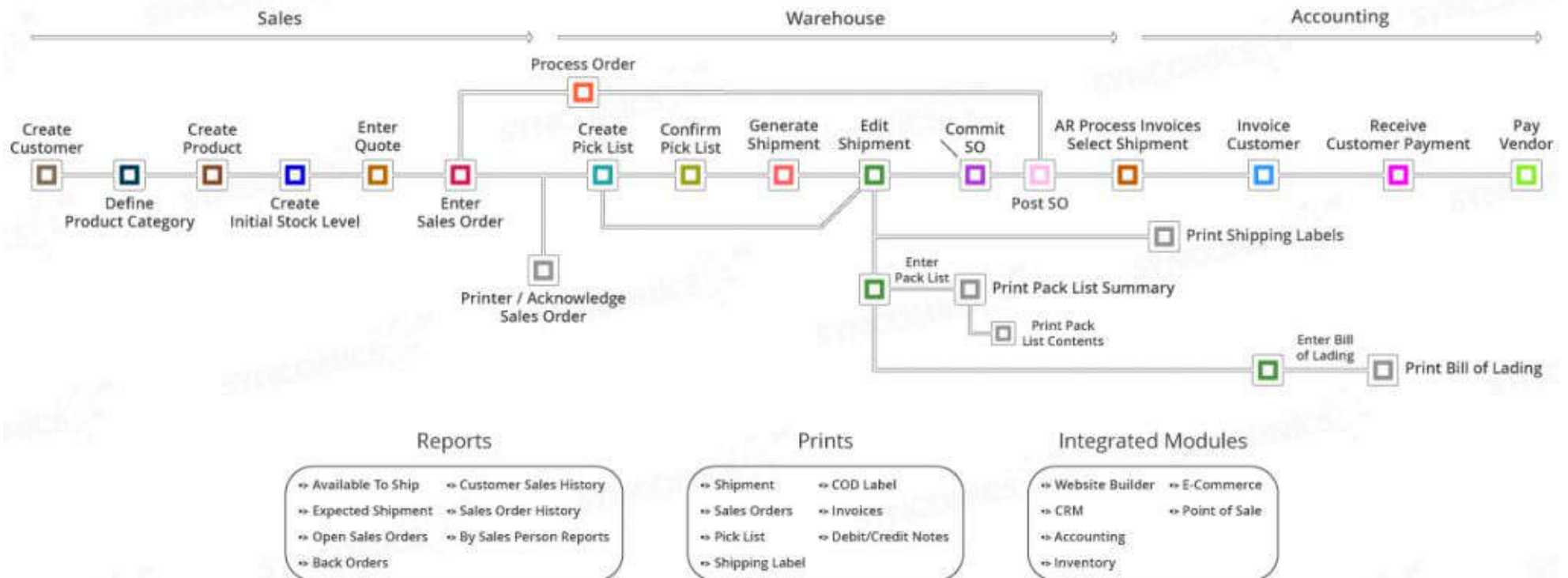
Odoo Purchase Module



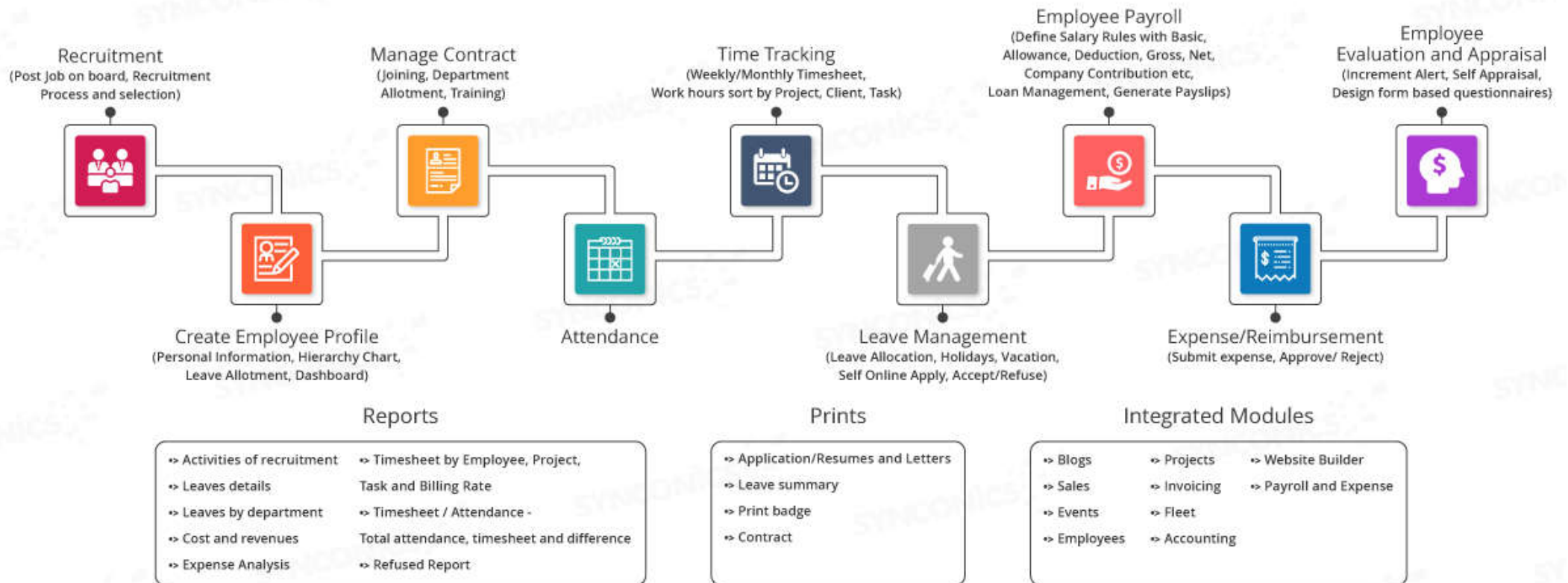
Odoo Manufacturing Module



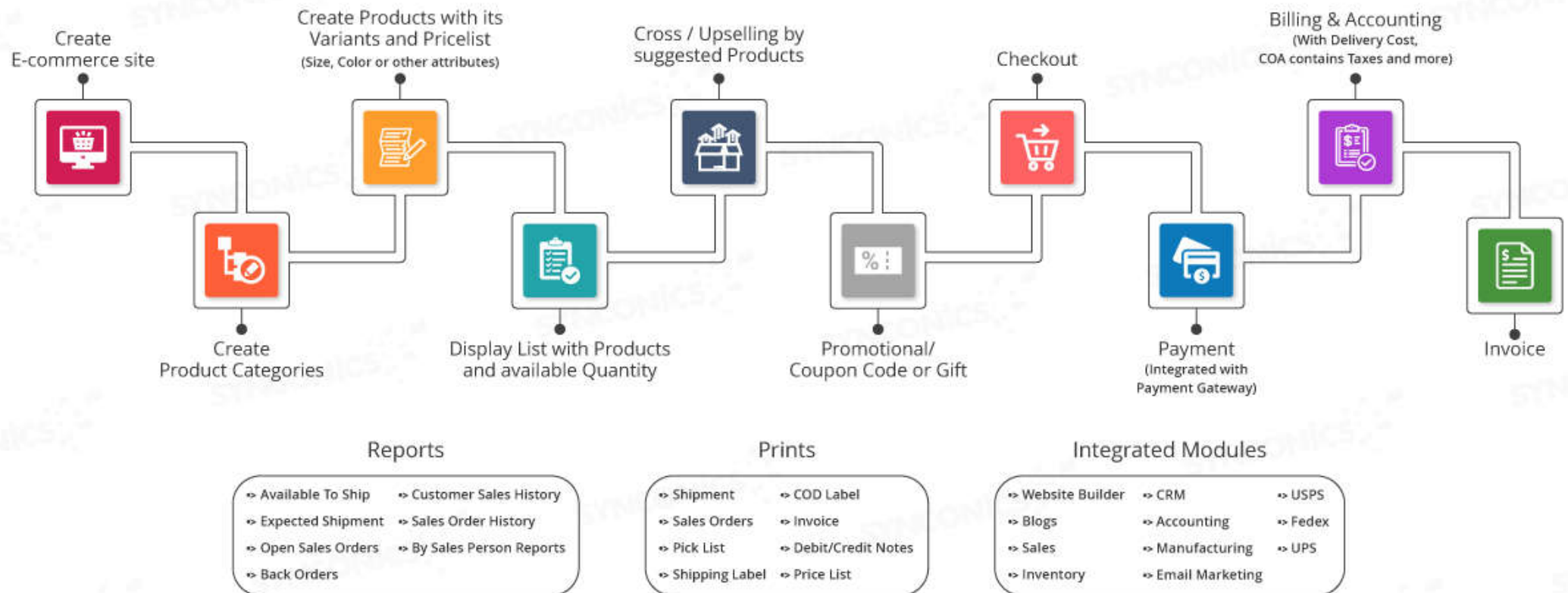
Odoo Sales Module



Odoo Human Resources Module



Odoo E-Commerce Module



Tugas Individu

1. Kerjakan latihan di buku “**Concepts in Enterprise Resource Planning**” halaman 45 nomor 2, 4, 6 dan 7. Kumpulkan hasilnya melalui hebat e-learning dalam bentuk **file pdf** paling lambat minggu depan pukul 13.00.
2. Baca buku “**Enhancing Enterprise Intelligence**” Bab 4: Customer-Centric Enterprise with CRM halaman 109. Buat summary untuk dipresentasikan minggu depan.

THANK YOU

