

MRP White Paper

COMPARISON

Odoo, SAP Business One, Netsuite, Microsoft Dynamics



2023

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Introduction


Introducing MRP offers available today

With multiple software options for each step of the manufacturing process - from production planning to quality control and inventory tracking - it can be challenging to identify a solution that meets every manufacturer's needs. While many ERP systems cover several of these functional areas, only a few genuinely offer everything out of the box.

Additionally, selecting the right system has implications beyond meeting the needs of the manufacturers. It will significantly impact its future growth and profitability. To shape a successful company, the right tool will require a proper implementation, and the stakes are high as the resources needed for implementation can be substantial, requiring time and input from employees across your organization.

The business software industry has recently shifted towards a software-as-a-service (SaaS) model. This trend provides businesses with increased flexibility and eliminates the need for a local server or other network hardware. Smaller deployments can see significant cost reductions by avoiding the need for local infrastructure.

In this white paper, we've carefully selected four popular solutions, including Odoo, SAP, Netsuite, and Microsoft Dynamics. For all of these, we've created comparison tables highlighting the hosting proposition, pricing, and availability of key features in several areas, such as inventory management, quality control, maintenance, and production management, to name a few.

*But first, let's discover
the different solutions* 



MRP Software

Odoo

Created to disrupt the enterprise world and finally provide a software that covers complex needs with simplicity, Odoo has become one of the most popular business solutions. With more than 82 business apps fully integrated and thousands of community modules, the open-source software caters to every sector and company size, making it a major player in the market. The Belgian software counts more than 20,000 downloads per day, making it the most installed app suite and a direct competitor to companies like Netsuite, Shopify, PrestaShop and Microsoft.

“

Amazing employees deserve amazing software

”



10 million+
monthly users



37,000+
apps



1 to 24 months
to be implemented



3,000+
employees

SAP Business One

SAP, born from the ashes of the Xerox business computing division, is the venerable purveyor of enterprise software, primarily selling built-to-suit solutions for large enterprises. In 2002, SAP made its first foray into the SME market segment by purchasing what is now SAP Business One (SBO). SBO is the lowest-cost ERP offering from SAP, designed to be deployed quickly and with minimal customization. Business One is designed to cover every business software need of small to mid-sized businesses, from CRM to Manufacturing, deployed in the cloud or on premises. SBO is best suited to light manufacturing as it lacks advanced planning and shop floor control features when deployed out of the box.

“

The best businesses run SAP

”



200 million
monthly users



300+
apps



3 to 10 months
to be implemented



5,000+
employees

Netsuite

NetSuite was founded in 1998 as NetLedger, a cloud-hosted accounting software. It has since grown into a full-spectrum suite of business software applications. True to its name, NetSuite is available exclusively through the cloud.

NetSuite employs a modular structure, with each deployment comprised of a selection of its core modules or “apps.” NetSuite offers preconfigured “suites” of apps to match the needs of different market segments. Some modules exist as basic and advanced versions. In our comparison, we used the more advanced modules when available.

“

*The world's number one
cloud business management suite*

”



No Info

(37,000+ customers)



300+

apps



3 to 6 months

to be implemented



4,600+

employees

Microsoft Dynamics AX

Microsoft Dynamics AX is the most feature-rich of the five products in the Microsoft Dynamics ERP line. AX was initially released as a collaboration between IBM and Damgaard Data (as IBM Axapta) in 1998 before being acquired by Microsoft in 2002 and re-branded under its current name. AX is designed for mid-to-large sized enterprises operating across multiple locations, countries, or currencies. Dynamics AX has particular strengths in manufacturing and distribution. It is commonly deployed by companies with revenue greater than \$50 million annually, though smaller implementations are also possible. For this comparison, we chose the latest release, AX 2012 R3, in the on-premise configuration.

“

Microsoft's ERP solution

”



4 million

monthly users



15

apps



3 to 24 months

to be implemented



10,000+

employees



Inventory Management

Feature Comparison

Inventory management is like juggling: it takes practice and skill to keep all the balls in the air.

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

General Scope

Multi-Warehouse	✓
Storage Locations	✓
Bin Replenishment	✓
Mobile Device Support	✓
Multi-Company	✓
Multi-Currency	✓
Multi-Language	✓
Automatic ASN (Advanced Shipping Notice)	✗
Package Management / Cartoning	✓
Freight Carrier Integration	✓
Manage Consignee Stocks	✓
EDI (Electronic Data Interchange)	✗

✓	✓	✗
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✗	✓
✓	✓	✓
✓	✗	✓
✗	✓	✓
✗	✓	✗

Products

Non-Stocked Inventory	✓
Multiple Variants	✓
Multiple Units of Measure	✓
Inter-Classe UoM Conversion	✓
Variant Matrix	✓

✓	✗	✗
✓	✗	✓
✓	✓	✓
✓	✓	✓
✓	✗	✓

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Traceability

Lots / Serial Numbers	✓
Up / Down Traceability	✓
360° Traceability	✓
Expiration Dates	✓
Cycle Counting	✓

✓	✓	✓
✓	✗	✓
✓	✗	✓
✓	✓	✓
✓	✓	✓

Reporting

Inventory Forecasts	✓
Inventory Valuations	✓
ABC Analysis	✓

✓	✓	✓
✓	✓	✓
✓	✗	✓

Barcode Support

QR Code Support	✓
RFID Support	✗
Lots / Serial Numbers Support	✓
Receptions	✓
Picking	✓
Internal Moves	✓
Delivery Orders	✓
Inventory Adjustments	✓

✓	✗	✗
✓	✗	✗
✓	✗	✓
✓	✗	✓
✓	✗	✓
✓	✗	✓
✓	✗	✓
✓	✗	✓

Odoo

SAP Business One

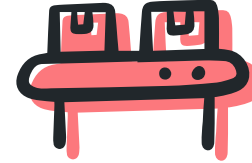
Netsuite

Microsoft Dynamics

Routing

FIFO / LIFO	✓
Customizable Routes	✓
Putaway Strategies	✓
Wave Picking	✓
Batch Picking	✓
Zone Picking	✓
Cluster Picking	✓
Cross-Docking	✓
Putaway Locations	✓

✓	✓	✓
✗	✗	✓
✓	✗	✓
✓	✗	✓
✓	✓	✓
✓	✗	✓
✓	✗	✓
✓	✗	✗
✓	✗	✓



Supply Chain

Feature Comparison

A well-managed supply chain is essential for success in today's global marketplace.

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Features

Vendor Data Management	✓
Vendor Pricelist Management	✓
Inbound Quality Control	✓
Dropshipping	✓

✓	✓	✓
✓	✗	✓
✓	✗	✗
✓	✓	✓

Purchase

Purchase Requests	✓
Purchase Orders	✓
Purchase Approval Workflow	✓
Request for Quotations	✓
Contracts / Purchase Agreements	✓

✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✗	✗

Automated Procurements

Minimum Stock Rules	✓
Make-to-Order	✓
Master Production Schedule	✓

✓	✓	✓
✓	✓	✓
✓	✗	✓



Manufacturing

Feature Comparison

Manufacturing is like a magic trick. We take raw materials and transform them into products that people use every day.

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Master Data

Multi-Level BoM	✓
By-Products / Co-Products	✓
Routings	✓
Subassemblies	✓
One BoM for Multiples Product Variants	✓
BoM Versioning	✓
Multiple BoM / Routing	✓

✓	✓	✓
✓	✗	✗
✓	✗	✓
✓	✓	✓
✗	✗	✗
✓	✓	✓
✓	✓	✓

Planning

Demand Forecasting	✓
MRP Scheduler	✓
Gantt Chart Scheduling	✓
Kanban Planning	✓
Production Calendar	✓
Infinite Capacity Scheduling	✓
Finite Capacity Scheduling	✓
Multiple Scheduling Plans	✗
Delivery Date Calculation	✓
Production Order Splitting / Merging	✓

✓	✓	✓
✓	✓	✓
✓	✓	✗
✓	✗	✗
✗	✗	✓
✓	✓	✓
✓	✗	✓
✓	✓	✓
✓	✗	✗
✓	✗	✗

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Operations

Manufacturing / Production Orders	✓
Job Tracking	✓
Work Orders / Operations	✓
Automated Time Tracking	✓
Disassembly Orders	✓
Subcontracting	✓
Rework / Repair	✓
Scrap	✓
Disposal Strategies	✓
Kits	✓
Edit Individual Production BoMs	✓

✓	✓	✓
✓	✓	✓
✓	✗	✓
✓	✗	✓
✓	✓	✗
✓	✓	✓
✓	✗	✗
✓	✓	✓
✓	✗	✗
✓	✓	✓
✓	✓	✗

Costing

Perpetual Inventory Valuation	✓
Periodic Inventory Valuation	✓
Standard Price	✓
FIFO / LIFO	✓
Landed Costs	✓
Actual Production Labor	✓
Production Order Costing	✓

✓	✓	✓
✓	✓	✗
✓	✓	✓
✓	✓	✗
✗	✓	✓
✗	✗	✓
✓	✓	✓

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Shop Floor Control

Shop Floor Terminals	✓
Production Activities	✓
Non-Production Activities	✓
Time Tracking	✓
Messages on Work Orders	✓
Barcode Support	✓
Equipment / Maching Management	✓
Work Instructions on Work Orders	✓
Maintenance Requests from Shop Floor Terminal	✓

✓	✗	✗
✓	✓	✓
✓	✗	✗
✓	✗	✓
✓	✗	✗
✓	✗	✓
✗	✗	✗
✗	✗	✗
✗	✗	✗

Human Resources

Schedule Management	✓
Touchscreen Attendance	✓
Timesheets	✓
Breaks	✓
Overtime	✓
Vacation / Injury	✓

✓	✗	✓
✗	✗	✗
✓	✗	✓
✓	✗	✗
✗	✗	✗
✓	✗	✗

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Reporting and Forecasting

Overall Equipment Efficiency	✓
Work Time	✓
Demand Forecast	✓
Maintenances KPIs	✓
Production Costs Analysis	✓
Analytic Accounting	✓
CSV Export	✓
Dynamic Pivot Tables	✓
Dashboards	✓
Save Custom Reports	✓

✗	✗	✗
✓	✓	✓
✓	✓	✓
✗	✗	✗
✓	✓	✓
✓	✓	✓
✗	✓	✓
✗	✗	✗
✓	✓	✓
✓	✓	✓



Maintenance

Feature Comparison

Don't wait until something breaks to fix it.
Maintenance is cheaper than repairs.

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Schedule and Request Handling

Schedule Preventive Maintenance	✓
Maintenance Kanban	✓
Maintenance Calendar	✓
Shop Floor Integration	✓
Multiple Teams / Sites	✓
Asset Management	✓
Subcontract Repair	✓
Job Tracking	✓

✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗
✓	✗	✗

Parts Management

Inventory Management	✓
Purchasing Integration	✓
Rotating Asset Location	✓
Equipment Serial Numbers	✓
Equipment Maintenance History	✓
Dealer Portal	✓

✓	✓	✓
✓	✓	✓
✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗



QMS

Feature Comparison

Quality is never a matter of price.

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Quality Control

At Reception	✓
In-Process	✓
Before Delivery	✓
Inventory Quarentine	✓

✓	✗	✗
✓	✗	✗
✓	✗	✗
✓	✗	✗

Quality Checks

Quality Control Plan	✓
Pass/Fail Checks	✓
Measurement Checks	✓
Quality Alerts / Nonconformance Documents	✓
Print Nonconformance Documents	✓
Corrective Actions	✓

✓	✗	✗
✓	✗	✗
✓	✗	✗
✓	✗	✗
✓	✗	✗
✓	✗	✗

ISO9001 Tools

Documentation Management	✓
Customer Satisfaction Surveys	✓
Customers Complaints Management	✓
Traceability of Operations	✓
Resources Management	✓

✓	✗	✗
✗	✗	✗
✓	✗	✗
✓	✗	✗
✓	✗	✗

Reports

Nonconformance Costs	✗
----------------------	---

✓	✗	✗
---	---	---



PLM

Feature Comparison

PLM is the glue that holds together the product development process.

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

Features

Engineering Change Orders (ECOs)	✓
BoM Versioning Management	✓
Routing Version Management	✓
MRP Integration	✓
Centralized BoM Management	✓

✓	✗	✓
✓	✗	✓
✓	✗	✓
✓	✗	✓
✓	✗	✓

ECO Management

Approval Workflows	✓
BoM Version Difference Viewer	✓
Bulk BoM Updates	✓
Notification Mechanism	✓
Project eMail Gateway	✓
ECO Costing	✗

✓	✗	✓
✗	✗	✓
✗	✓	✓
✓	✗	✗
✓	✗	✗
✗	✗	✓

Third-Party CAD Integrations

AutoCAD	✗
SolidWorks	✗
Autodesk	✗

✗	✗	✗
✗	✗	✗
✗	✗	✓



Usability, Pricing & Conditions

Feature Comparison

Odoo

SAP Business One

Netsuite

Microsoft Dynamics

User Interface

Full Web Interface	✓
Mobile App	✓
App Store / Add-ons	✓

✓	✓	✓
✓	✓	✓
✓	✓	✓

Subjective Ratings

Navigation and Search	5 / 5
Data Entry	5 / 5
Mobile App	4 / 5
Reports Flexibility	4.5 / 5

5 / 5	3 / 5	5 / 5
5 / 5	4 / 5	5 / 5
3 / 5	3 / 5	5 / 5
5 / 5	3 / 5	4 / 5

Pricing and Conditions

Monthly Pricing	Free ¹
Number of Users	Unlimited
Contract Duration	Monthly
Free Trial	✓
Open-source	✓
Hosting	Cloud + On Premise

199\$/user	999.\$+99\$/user	95\$/month/user ²
Unlimited	Unlimited	Unlimited
Yearly	Monthly	Perpetual
✗	✗	✗
✗	✗	✗
Cloud + On Premise	Cloud	Cloud + On Premise

User Satisfaction

Rating on g2Crowd	4.3 / 5
Rating on GetApp	4.2 / 5
Rating on Capterra	4.1 / 5
Brand Exposure	3 / 5

3.9 / 5	4 / 5	3.8 / 5
4.4 / 5	4.1 / 5	4.4 / 5
4.1 / 5	4.1 / 5	4.4 / 5
5 / 5	4 / 5	4 / 5

1. Odoo MRP is free for unlimited users, as long as you use solely the MRP app. ALL Odoo Apps for 24.90€/user/month.

2. The first app is available at \$95/user/month. Starting from the second app, every new app will be invoiced \$20/user/month.

User Interface

When evaluating enterprise software, the user interface is a crucial factor that is often overlooked but holds significant importance. It directly impacts users' efficiency within the system and the ease of implementation, and will even contribute to reducing costs associated with user errors.

A successful solution must consider user needs and goals to assist them effectively. The UI is crucial in understanding human factors and enabling the software to fulfill its purpose. From a manufacturing point of view, the user interface becomes even more critical, especially in shop floor control systems. Workers in manufacturing environments often operate in noisy surroundings, work swiftly, wear personal protective equipment (PPE), or may not have optimal conditions for using a traditional computer interface with a keyboard and mouse. Therefore, it is essential to consider the specific design requirements of a shop space or production line when evaluating the usability of an interface in such environments.

To better understand the software's visual elements and interface options, we have included screenshots of analogous menus from each software in this comparison. While assessing software usability based solely on static images has limitations, it can still offer a rough basis for comparison. This additional information will assist you in your analysis and provide valuable insights into the user experience of each software solution.

Odo

Manufacturing Overview Operations Planning Products Reporting Configuration

Replenish Add a Product Master Production Schedule

	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024
Forecasted Demand	240.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suggested Replenishment Replenish	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	5.00	0.00	0.00
Forecasted Stock	160.00	-140.00	-120.00	-100.00	-80.00	-60.00	-40.00	-20.00	0.00	5.00	5.00	5.00

Netsuite

NETSUITE Gill Inc. Search

Activities Shipping Receiving Inventory Reports Documents Setup Demand Planning SuiteSocial Support

Demand History by Item

	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014	September 2014	October 2014	November 2014	December 2014	January 2015	Total
HP Dual-Core AMD Opteron 265 1.8GHz Processor													6
HP Server Case													3
Western Digital 750GB Hard Drive													6
4400 Phone										2			2
4400D Display Phone										1			1
4412D Display Phone										1			1
BackBerry PlayBook													221
iPad	37	35	49	45	49	53	58	58	63	69	79	85	680
Kindle Fire	40	30	20	24	23	20	16	14	14	13	10	10	126
DVD Player	8	13	21	34	55	89	144	233	233	300	313	313	1,443
Google Android Phone													126
Google Chromebook													126
Samsung Galaxy Note									125	210	665		1,000

SAP Business One

System Help

MRP Monitor

Classification

	A	B	C	Sum	Key figure
X	0.00	0.00	17,396.66	17,396.66	Sum consum
Y	1,898,321.41	416,079.98	174,301.69	2,488,703.08	Sum consum
Z	219,819.84	86,222.54	16,948.29	322,990.67	Sum consum

Microsoft Dynamics

Dynamics 365 Business Central

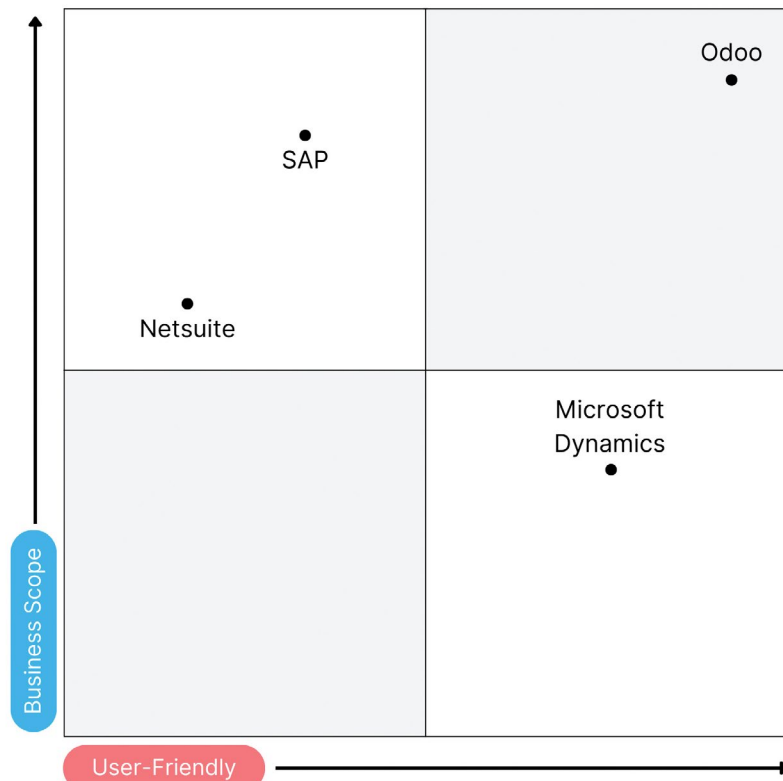
PLANNING WORKSHEETS

Management	Process	Actions	Less options
WARNING	NO.	AC.	
Attention	1800	Change Qty	
Attention	1800	Cancel	
Attention	1800	New	

Different solutions, Different needs

When choosing the right software for your business, it is important to assess several criteria based on your specific needs.

Business Scope and User-friendliness



Business Scope measures a software's capacity to meet your business needs comprehensively through its features and its flexibility in customizability and integration with other tools.

User-Friendliness measures how straightforward and user-friendly a software solution is for your team to navigate, requiring minimal training or complex procedures. Additionally, it evaluates how hassle-free the software is to set up, considering factors like time, effort, and resource requirements for initial configuration within your organization.

Odoo is a robust solution addressing a wide range of business needs, extending beyond MRP functions. The platform is designed to streamline operations and replace the need for disjointed, non-integrated software applications. Odoo shines as a highly customizable, all-in-one solution with many applications. Its open-source nature empowers a thriving community, resulting in a vast repository of community-contributed applications. Its integrations with dozens of other modules, including Inventory, Purchase, Quality Control, Product Lifecycle Management, or even Maintenance, make it a complete 360° software, allowing the user to manage all their MRP operations without the need to leave the shop floor environment.

Meanwhile, **SAP** provides advanced manufacturing features but might suffer from limitations regarding customization. SAP is also renowned for offering a broad spectrum of business solutions, from Financial Management and HR to Customer Relationship Management. However, the solution lacks integrations between its different modules.

Microsoft Dynamics is scalable, making it easy to implement. In addition to MRP, Microsoft provides several useful integrations with its other solutions (such as Microsoft Office). However, the software is still limited and lacks quality control, maintenance, and PLM features. The solution also suffers from the absence of an advanced HR solution integration. It is usually used by small SMEs with straightforward manufacturing processes.

Finally, **Netsuite** can be seen as a basic MRP solution. The software lacks many advanced features offered by Odoo and SAP, such as Quality, Maintenance, or Scheduling. The software also relies on many non-native integrations, making it difficult to access for small and medium businesses.

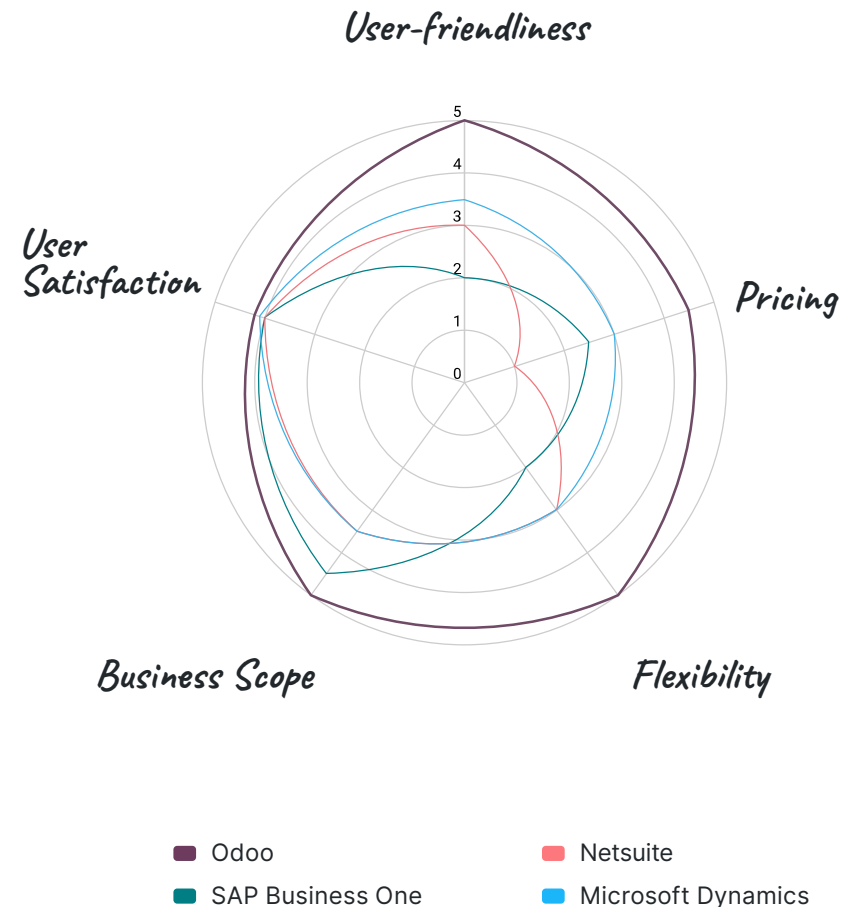
Now, when it comes to user-friendliness, **Odoo and Microsoft Dynamics** offer intuitive interfaces, making the solution suitable for users of varying technical backgrounds. Its straightforward setup ensures a hassle-free experience for every business.

However, **Microsoft Dynamics** relies on integrations with external software, meaning the solution takes more work to scale. On Odoo's side, it shines thanks to its integration with many workers' daily life tools. Indeed, the solution offers the possibility to manage production with an external tablet or to use foot pedals to advance in the production instructions or to record output.

SAP and Netsuite, on the other hand, are noted for being less user-friendly and can be challenging to set up. They might require more time and effort for users to become familiar with their interfaces. Also, the multiplication of screens for every process or recording action makes it difficult to use in a real manufacturing environment.

That's why it's essential to consider your business's specific needs and scale when assessing which solution is the best fit, as the ease of use and setup can vary significantly among these options.

Value Proposition



Conclusion

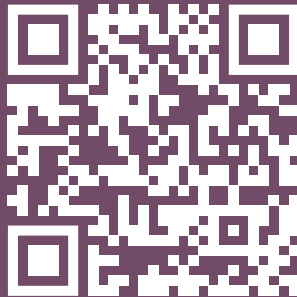
Ultimately, the choice depends on your organization's specific requirements, scale, and the balance between customization, ease of use, and setup.

If you are seeking specific MRP solutions, then Odoo and SAP might be a good fit. Thanks to their advanced manufacturing features, these systems are well-suited for complex manufacturing environments and provide efficient solutions for every manufacturing need.

If you have more extensive requirements, you may find Odoo the most appealing solution. It offers advanced features and can accommodate any process. Its possibilities in terms of customization and its extensive suite of integrated business applications make it the best solution for businesses having needs beyond manufacturing. Additionally, Odoo offers ease of use and setup, making it suitable for small and medium businesses.

Curious about another app? 

Discover Odoo available White papers!



This comparison was compiled by Odoo SA. We did our best to make it objective and fair based on the information available online. If you find mistakes or missing features, please report it to whitepapers@odoo.com and we will update the online version. Our goal is to have a continuously updated comparison of the main competitors to be as accurate as possible.