**LECTURE # 01**

**Enterprise Resource Planning (ERP):**

Enterprise resource planning (ERP) is business process management software that manages and integrates a company's financials, supply chain, operations, reporting, manufacturing, and human resource activities. Fundamentally, ERP software enables you to run the core processes of a business.

Generally, ERP software consists of a set of integrated business functions that automate back-office processes including procurement, inventory management, and assembly. Organizations can gain a real-time view across their operations by using one central database.

An effective ERP system allows an organization to analyze transactional data, resulting in more streamlined processes and greater efficiency.

**Dynamics 365:**

Dynamics 365 is a set of intelligent business applications that work together seamlessly. It provides customer relationship management (CRM) opportunities for marketing, customer service, field service, and sales through its customer engagement apps. Dynamics 365 also covers operations, finance, commerce, and human resources through its finance and operations apps. Dynamics 365 combines CRM and ERP capabilities by bringing them together in a powerful set of applications and moving them to the cloud. Although CRM and customer engagement apps are an important part of the Dynamics 365 suite of applications, this module focuses on ERP and finance and operations apps.

Dynamics 365 connects with Microsoft Power Platform and Microsoft Data verse for insights, innovation, and connectivity between your data and your business processes. Dynamics 365 consists of transactional applications, like Business Central, and finance and operations applications that help your organization automate processes and increase efficiency.

**Finance and operations apps:**

**Dynamics 365 Finance** helps you redefine your traditional global financial management to monitor performance in real time, predict future outcomes, and make data-driven decisions to drive business growth. You can automate processes to manage financial complexities, increase efficiency, and decrease operational expenses.

**Dynamics 365 Supply Chain Management** empowers employees and organizations with the ability to obtain a unified view of inventory, warehouse, manufacturing, service, and logistics with predictive analytics that turn data into insights to support better strategic decisions. It brings agility and efficiency to manufacturing by connecting and optimizing production planning, scheduling, operations, and cost management. It gives you real-time visibility into warehousing and transportation business processes to reduce costs, reduce delivery time, and increase accuracy.

**Dynamics 365 Commerce** delivers a comprehensive solution that unifies your back-office, in-store, call center, and digital experiences. Commerce enables you to build brand loyalty through personalized customer engagements, increase revenue with improved employee productivity, and optimize operations to reduce costs and drive supply chain efficiency, delivering better business outcomes.

**Dynamics 365 Human Resources** provides the workforce insights you need to build data-driven employee experience. Human Resources can improve organizational agility, optimize programs, discover workforce insights, and transform employee experiences. Your human resources team can centralize personnel data, automate processes, and enable self-service.

**Dynamics 365 Project Operations** provides the visibility, collaboration, and agility needed to drive success across the project-centric business—from prospects to payments to profits. It connects sales, resourcing, project management, and finance teams in a single application to win more deals, accelerate project delivery, and maximize profitability.

**Dynamics 365 Business Central**

Dynamics 365 provides a business management solution named Business Central for small and mid-sized organizations. Business Central automates and streamlines business processes within areas such as finance, manufacturing, sales, shipping, project management, and services. Finance and operations apps, however, provide an enterprise solution targeted to complex organizations.

**Differences between Business Central and finance and operations apps**

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| **Business Central** | **Finance and Operations apps** |
| Business Central can be implemented for a single user | finance and operations apps require a minimum of 20 users for implementation. |
| Business Central is also an all-in-one solution. | finance and operations apps allow you to choose which functionalities you want to add. |
| Business Central apps have a lesser depth of functionality | Finance and operations apps have a greater depth of functionality. A process that takes a few steps to configure in Business Central might take two to three times as many in finance and operations apps because of the complex and advanced functionalities available in the finance and operations apps. |

**Why use finance and operations apps?**

* Lack of capacity
* Lack of insights
* An existing system that is costly to operate

**Discover what a modern ERP system can offer?**

The resource planning tools that Dynamics 365 applications offer can help you:

* Increase productivity.
* Get control of financial management.
* Help with human resources management.
* Streamline project management needs.
* Improve supply chain and operations management.
* Make better decisions by using business intelligence and artificial intelligence (AI).

**Cloud vs. on-premises implementation of finance and operations apps**

Cloud deployments offer an ERP service that is fully managed by Microsoft, while on-premises deployments are deployed locally within a customer's datacenter.

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| **Capability** | **Cloud** | **On-premises** |
| Infrastructure and data location | - Cloud service managed by Microsoft  - Datacenters managed by Microsoft | - Infrastructure managed by customer or partner  - Disconnected datacenter  - Local data residency |
| Data trustee | - Microsoft | - Customer |
| Application lifecycle management (ALM) | - Managed by Microsoft  - Customer access ALM and telemetry using Dynamics 365 Lifecycle Services | - Managed by customer or partner with cloud-based ALM and telemetry using Lifecycle Services |
| Cloud capabilities | - High availability and disaster recovery included | - High availability and disaster recovery managed by customer or partner |

**Task recorder**

This feature is a utility in finance and operations apps that allows users to record business processes for different use cases, including the following:

* Step-by-step guided tours of specific business processes in the application
* Documentation of a business process as a Microsoft Word document that can optionally include screenshots
* Regression tests for a business process
* Automatic playback of a business process in the application

Once the business processes are recorded, they can be saved in the following ways:

* Save to this PC
* Save to Lifecycle services
* Export as Word document
* Save as developer recording

**Save to this PC:**

The task recording package can be saved as an axtr file and uploaded in the business process modeler (BPM) tool in Lifecycle Services. The axtr file creates the test case for the business process.

**Save to Lifecycle services:**

You can directly save a recorded task to Lifecycle Services corresponding to a business process in BPM. The task is automatically stored as a test case for the business process. The test case is also being reflected in the Microsoft Azure DevOps instance connected to the Lifecycle Services project.

One of the major uses of task recorder is Regression Suite Automation Tool (RSAT). This tool facilitates regression testing and significantly reduces the time and cost of the user acceptance test (UAT). RSAT is fully integrated with DevOps for executing, reporting, and investigating test cases. The task recordings that are uploaded into DevOps as test cases can be run seamlessly in the RSAT tool. This helps the business process owner to automate the testing of the business process configuration and customization. The test data is stored in Excel, which is decoupled from the test steps.

**Export as Word document:**

The recorded tasks can be saved as a Word document. This is mostly used when a user is looking for a user manual or use case document based on a real example.

**Save as developer recording:**

This option helps you to generate XML files from the task recorder. You can import the XML recordings to generate test code that can be used to validate business process scenarios. Generated code is based on the SysTest Framework and FormAdaptors, which facilitate unit/component testing. You can also import the XML recordings in the Performance software development kit (SDK) tools to perform multiuser load testing.

**Workspaces**

A workspace is a one-stop shop for specific activities. Think of workspaces as personalized work centers with data, reports, and transactions that increase efficiency. Workspaces can help drive productivity by:

* Providing 360-degree views of activities - No need to navigate to multiple lists.
* Answering specific questions such as:
  + Which customer invoices are past due now?
  + How many purchase orders have been received and are ready to be invoiced?
  + How many POS devices are activated?
* Providing insights – You can compare multiple sources of data and get a big picture view that might be difficult to achieve when only looking at lists in specific modules.
* Navigating by data – A workspace provides a concise view of the business data, which helps you search for results by spending less time on the filtering process.
* Providing direct access to tasks - Tasks can be performed directly from the workspace.

**Analytical workspaces**

The Dynamics 365 suite of applications includes analytical workspaces. These workspaces include a set of reports that offer insights into standard business operations. These reports are like dashboards and differ from financial reports. You can design and embed the Microsoft Power BI reports in the analytical workspace. The reports include metrics that a wide range of users from any industry may find useful. You can change the reports if needed.

Users who have access to the web-friendly Power BI report design tools can customize their analytical reports. The free-form canvas designer in Power BI helps in designing relevant business insights. The designer provides better visibility of the business and helps to make the organization successful.