

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Informatics



Bachelor Thesis

Financial Accounting in ERP

Supervisor: Milos Ulman

Author: Md Mohiuddin

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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BACHELOR THESIS ASSIGNMENT

Md Mohiuddin

Economics Policy and Administration
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Thesis title

Financial Accounting in ERP

Objectives of thesis

The main objective of the thesis is to compare implementation of Financial Accounting process in SAP S/4 HANA between two ERPs in a selected industry.

The partial objectives of the thesis are such as:

- to make a literature review of the current state of the art of financial accounting in companies in the given industry with a close attention to ERP and Financial Accounting process.
- to compare financial accounting functionalities and characteristics in selected ERPs.
- to evaluate findings and formulate recommendations for business users.

Methodology

The methodology of the thesis will be based on the literature review and a case study conducted for a selected company. The case study will focus on user requirements, functionalities of ERPs and comparison. By synthesising the results of the practical part and the outcomes of the literature review, final conclusion and recommendations will be formulated.

The proposed extent of the thesis

30 – 40 pages

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KRÜGER, Jens, 2016. SAP S/4HANA Finance: An Introduction. 2, illustrated. Rheinwerk Publishing. ISBN 1493213857.
RAMASWAMY, Murugesan. SAP FICO Beginner's Handbook. 2015.

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The Bachelor Thesis Supervisor

Ing. Miloš Ulman, Ph.D.

Supervising department

Department of Information Technologies

Electronic approval: 26. 8. 2019

Ing. Jiří Vaněk, Ph.D.

Head of department

Electronic approval: 14. 10. 2019

Ing. Martin Pelikán, Ph.D.

Dean

Prague on 17. 03. 2020

Declaration

I declare that I have worked on my bachelor thesis titled "Financial Accounting in ERP" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 13th March 2020

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Financial Accounting in ERP

Abstract

The bachelor thesis describes the financial accounting in ERP systems. It's also describes the process of choosing ERP system for the IDLC finance company. Theoretical part of the thesis evaluates the current state of SAP S/4 Hana Finance, Oracle NetSuite, and Microsoft Dynamics 365 in financial accounting. It's also describes the situation of IDLC company in Bangladesh. And, financial accounting process in these three ERP systems. The practical part analyses the current price, Implementation cost, customer satisfaction, Market share, and regular systems update for SAP S/4 Hana Finance, Oracle NetSuite, and Microsoft Dynamics 365 in financial accounting. Practical part also provides the multi criteria decision making analysis and shows why IDLC is choosing SAP S/4 HANA for finance. Later, SWOT analysis of the SAP S/4 HANA.

Keywords: ERP, SAP, SAP S/4 Hana, Financial Accounting, Oracle NetSuite, Microsoft Dynamics 365, IDLC, Multi criteria decision making, SWOT analysis, Bangladesh.

Title of Bachelor Thesis in Czech

Abstrakt

Summary in the Czech language (approx. 15 lines).

Klíčová slova: Keywords in the Czech language (approx. 10)

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1 Introduction

The world of today is the era of information communication and technology. All developed countries have developed their system of information communication and technology. There is no alternative for information and communication technology to compete in the business market.

There are nowadays several software and technology available to make business faster and more profitable. With this software's, any technology-related work can be done more efficiently within a short period of time. (Quora, 2018)

ERP (Enterprise Resource Planning) is an organizational management software that helps a company to use a range of automated tools to streamline and optimize operations, creating a leaner, more reliable and more productive operation. ERP provides full insight of core business operations and optimizes structures by excellent resource tracking and reporting database management and data sharing, as well as integrated information systems overall. ERP programs will enable growth of any company without the addition of IT or staffing costs. ERP systems enable business growth. (CGS, 2015)

The effect of such programs is clear with the worldwide ERP software market projected to be worth \$41.69 billion by the year 2020. While that number is incredible, it can be hard for those who have never used the program to realize why ERP is important to their company. But as globalization squeezes the market for many sectors, it is important to look for all the resources to give every company a competitive edge. This is done for many organizations using ERP. (O'Shaughnessy, 2020)

Enterprise resource planning (ERP) systems are used within a structured, streamlined framework for businesses seeking to control their business functions. ERP is commonly used by supply chain companies in order to control and distribute all moving parts. Moreover, there are several different sectors that can use ERP, including those in hospitals, non-profit groups, manufacturing and hospitality. Organization that needs to manage the employees, customers and supplies can all rely on ERP benefits. (O'Shaughnessy, 2020)

Thanks to its streamlined approach to business processes, ERP software solutions have steadily gained traction within businesses, both large and small. With this, data from various business entities can be gathered, processed, handled and interpreted. Likewise, ERP is used to simplify back-office operations and streamline workflows through agencies. The approach will improve performance, reduce costs and increase productivity when configured. (O'Shaughnessy, 2020)

Throughout today's finance industry, accounting and finance practitioners are dealing with an ever-wider array of complex business procedures and analysing evidence from a variety of sources. Companies that are looking for rapid growth should be ready to face new challenges and adapt them quickly to new technologies, business practices and more effective ways to communicate with customers. To achieve success within the finance industry, it requires the mixing of all business processes and open access to varied financial functions. It promotes collaboration and sharing of information, with the effect that efficiency and speed are dramatically increased.

ERP is a set of tools and processes that help connect teams and therefore the company's operations into one program. ERP features a single database that permits different departments to share information and to speak with one another. A holistic ERP system consists of various modules like financial management, human resources, management of

customer relationships, distribution, procurement, development, etc. In an ERP system, the financial management element is viewed together of the foremost important. This consists of a spread of applications: financial budget, accounts payable and receivable, cash management, payroll management, deferred revenue accounting, intercompany accounting and audit, fixed assets. Financial management software provides the power to securely monitor financial accounting details across multiple businesses, cultures, currencies, and account maps. It allows oversight and management of monetary information throughout the organization, which is vital for strategic deciding. Each module produces financial reports for the varied departments and units of industry.

Using an ERP Financial Management program, incorporating key financial and accounting systems, organizing and investing money, and criteria for financial reporting is simpler. Financial management software helps to record and integrate transactions within the module, allowing you to see the financial impact of a common system on the company.

Modern ERP systems are designed to integrate all departments and functions across the enterprise into a single computer system that can meet the specific needs of different departments. ERP systems improve the quality, business efficiency and enhance collaborative opportunities. The module for financial management is most implemented in the financial industry and is one of those modules that is first implemented. The use of ERP tools in the financial industry maintains the efficiency and overall security of the accounting records, facilitates decision making and displays the company's current and revised forecast. The ERP programs collect, consolidate and deliver the knowledge to those who need it. It's not only means that they gather and distribute complete information, but also transmits the knowledge into the appropriate person as needed who needs it to perform a task at a precise moment.

ERP systems provide the ability to make the financial management more accessible. Because of effective and efficient procurement strategies, companies get greater asset management and reduce the risk of failure, reducing hidden costs and inefficiencies Better visibility and better asset management help to avoid wasting money on unnecessary capital spending on land already own and that can be recycled.

New ERP programs offer a better connection to enterprise and greater security. All Financial department elements may navigate the control flow. In addition, everyone will only have access to a limited number of functions and will have access to the information and duties previously allowed.

ERP systems improve the financing life, allowing administrators to remain top at all levels while optimizing day-to-day work processes in exchange . (Dubenska, 2020)

2 Objectives and Methodology

2.1 Objectives

The main objective of the thesis is to choose the best ERP system for of Financial Accounting process in selected company.

The partial objectives of the thesis are such as:

To make a literature review of the current state of the art of financial accounting in ERPs and Financial Accounting module in ERPs system.

To compare financial accounting in SAP S/4 HANA, Oracle NetSuite, And Microsoft dynamics 365 system.

To evaluate findings and formulate recommendation for business users.

2.2 Methodology

The methodology of the thesis will be carried out already implemented financial accounting process in sap s/4 Hana, Oracle NetSuite, and Microsoft dynamics 365. Later, find out details of all Fi sub modules. SWOT analysis of selected ERPs. In the practical part, relevant data will be collected and analysed and advantages and disadvantages, costs and data efficiency will be described. Finally, by synthesising the results of the practical part and the outcomes of the literature review, conclusion and recommendations will be formulated.

3 Literature Review

3.1 ERP

ERP is terminology for Enterprise Resource Planning, but not even the full name provides any insight on what or what ERP is. To do this, need to take a step back and consider all the various processes required and run a company, such as inventory and order control, payroll, human resources, customer relationship management (CRM) and beyond. ERP software integrates these various functions into one integrated program to automate processes and information through the entire enterprise at the most basic level.

The core feature of all ERP systems is a shared database, which supports various functions used by different business units. It means in practice that workers in different divisions, such as accounting and finance, will rely on the same details for their specific needs.

ERP program also offers a degree of automated and coordinated monitoring. Instead of requiring employees to maintain individual files and spreadsheets that need to be manually compiled to generate information, some ERP systems require employees to pull data from a single program. For example, the order management team can handle orders quicker and more efficiently with sales orders coming into the financial system directly without any manual re-keying, and the finance department can shut down the books more quickly.

Gartner¹(research and advisory firm) coined the term ERP in 1990, however its origins date back to the 1960s. The idea then extended to handling and regulating inventories in the manufacturing sector. Software engineers also developed systems to record production, performance and progress monitoring. This had been evolving into Material Requirements Planning (MRP) systems for scheduling production processes by the 1970s. MRP expanded in the 1980s to include further manufacturing processes, leading many to name it MRP-II or Manufacturing Resource Planning. In 1990, these programs have extended to other back-office roles such as accounting and human resources outside inventory control and other operating procedures, setting the stage for ERP as everybody have come to know it. (Oracle, 2020)

In fact, while ERP's "e" stands for "enterprise," high-growth and mid-size companies are now increasingly implementing ERP programs. Software-as-a-Service (SaaS) solutions — also known as "cloud computing"— have contributed to this growth. Cloud-based solutions not only allow ERP tools more accessible but also make it easier to incorporate and maintain these programs. Perhaps more specifically, digital ERP allows real-time reporting and BI, bringing them more relevant to business executives and staff needing exposure. Therefore, companies of all types and a wide range of markets are switching to cloud ERP solutions. Yeah, Forrester estimates that through 2015, SaaS-based implementation of ERP will increase by 21 per cent annually. If someone starts considering the benefits of ERP, it is obvious why it is becoming so widespread and why its usage will continue to expand so rapidly. (Oracle, 2020)

3.2 Role of Financial Accounting in organizations

3.2.1 Financial Accounting:

Financial statements' primary aim is to sum up financial activity in any company in the declaration of profit and loss, balance sheet and cash flow. Accounting records and bookkeeping form the basis of the financial accounting of any company. If systems and processes are stable in design and have appropriate safeguards, the efficiency of financial accounts for any company improves.

In a corporation the financial accounting feature is liable for routinely reporting to business owners of pecuniary facts. Such financial information is often requested by interested parties, such as authorities, consumers, buyers and creditors. When banks fail to rely on someone accounting records, they'll find it difficult to obtain loans for their company. Financial statements specify the amounts owed to suppliers by each corporation, what the corporation owes to customers, operating expenses, labour costs and available cash. Business may use financial accounting to evaluate key aspects of their operation, such as monthly revenue or the reasons for high expenditures in one month (Azcentral, 2018)

For a corporation, financial accounting is a basic set of financial controls This requires enough knowledge and understanding of financial accounting principles and standards so that the organization can delegate responsibilities, document financial details and differentiate between employees' duties. Therefore, financial management helps company to track more tightly certain tasks and their performance. Strong financial reports show financial supervision and reporting that reduces the risk of fraud and theft that customers want to see. Financial statements may produce financial information in a way that makes business results easier to understand As a business owner, anybody can use financial accounting to build ratio analyses and use those ratios to examine in more detail the different aspects of their organization.. Owner may calculate the cash position of his/her company or evaluate his/her income or revenue ratio and equate it to his/her past performance or competitors ' output. Financial planning helps the owner to prepare his / her future course of action or policy and to determine the efficacy of that strategy with the financial information produced from a specific time.

The financial accounting of anyone company must follow certain conventions in order to be a meaningful, value-added function. It must be important, ensuring the it impacts decisions made by stakeholders. It must provide objective information that has agreed criteria that can be calculated and communicated. Financial analysis must be practical, so it should not exceed the cost of providing this material. The documents company send must be accurate, and for all report's owner must obey the same accounting principles closely. (Azcentral, 2018)

3.2.2 Management Accounting

The organization's management accounting aim is to facilitate strategic decision-making by gathering, storing, and sharing information that helps to prepare, monitor, and analyse business processes and corporate strategy. The interesting thing about management accounting is that having a person with the title of "management accountant" within a corporation is unusual. Some persons also work within the corporation as accountants, but these entities usually act as financial accountants, expense accountants, tax accountants, or internal auditors. However, the ability to develop and use good management accounting (which includes much more field than the value of the company by cost accountants) is an important capacity for many people, including finance professionals, corporate and marketing executives, top-level managers, and IT.

In a very large company, each division has a top accountant appointed the controller, and much of the administrative accounting performed in these departments is under the controller's leadership. On the other hand, the manager typically reports to the division's vice president of finance who, in addition, reports to the administrator and/or general chief financial officer (CFO) of the division. All these people are accountable for the distribution of good accounting information that supports the organization's function in preparing, managing, and assessing.

The management accounting method is the process of creating and using expense, efficiency, and time-based evidence to make effective judgments within the company, as should be obvious by now. It is the duty of the internal audit team to ensure procedures are enforced and activities are successful. Financial management must also provide accurate financial reports to decision-makers within the company, thus providing information to observers (such as shareholders, customers and government agencies). It is the duty of machine technicians to process information so that it is usable in ways that are appropriate for decision-making. Representatives from the tax department ensure that the company complies with tax laws and charges no more than the legally binding tax liability, but these entities frequently engage in good planning, monitoring and assessment of procedures and actions that will affect future tax disclosure. Ultimately, cost accounting explicitly plays a key role in monitoring and recording the related costs of the product and service. Eventually, the supervisor aims to put all this knowledge together as an integral part of the organization-wide preparing, monitoring, assessing and decision-making practices. (Tools, 2018)

Business professionals working in accounting administration have come a long way since the early days of accounting management in the 1800's. Executive accounting specialists are taking a central role in many organisations today. The nature of their work continues to expand with the development of new markets and the role of computer technology in the gathering and use of knowledge by decision makers.

In today's organizations management accounting plays a key role. In most organizations the top accountant is the controller. All accounting functions, including cost accountants, financial and tax accountants, internal auditors, and system support personnel, report to this individual. Because a lot of management accounting originates from these areas, all decision-makers within the organization must understand how to create and utilize effective accounting documents for management. Dramatic changes in digital technologies are now dramatically influencing management accounting. Today's technology enables management to monitor performance information which goes beyond traditional general ledger systems' cost-based information. Effective financial performance requires the duty to maintain a large spectrum of sensitive information. All concerned therefore need to predict the numerous ethical dilemmas and be prepared to address them. Someone must realize that management

accounting is not just for manufacturing companies. Service and merchandising industries form a much larger part of the U.S. economy than the manufacturing industry does. Furthermore, the advent of the Internet and e-commerce has introduced dramatic changes to many companies and industries

Managerial accounting involves collecting, analysing, and reporting information about the operations and finances of a business. Such reports are usually directed to a company's executives rather than to any outside bodies, such as shareholders or lenders. Managerial accounting functions are: Margin analysis, Constraint Analysis, Target costing, Inventory valuation, Trend analysis, Transaction analysis, capital budgeting analysis,

Given the wide variety of investigative and analytical activities described above, we might say that managerial accountants operate in a consultative capacity, alert managers of imminent problems and focus their attention on potentially profitable opportunities (Tools, 2018)

3.3 About Sap

SAP is a German company that makes business-level enterprise management software. SAP is one of the world's largest software companies that stands for 'data processing processes, programs and goods.' SAP offers end-to-end systems for a range of business applications like manufacturing, storage, accounting and delivery. These are best known for their software for SAP ERP (enterprise resource planning), SAP BW (data warehouse product), software for SAP Business Objects, and SAP HANA (high-performance analytical appliance) (Wikipedia, 2017).

SAP is an innovative company thanks to the integration of each of its solutions (modules) with all the other subsystems. There are a tremendous number of SAP applications in the market. The SAP modules are classified into three main groups: functional modules, technical modules and business specific modules.

Sap is the market leader in enterprise application software, helping companies of all sizes and industries to run at their best: 77 per cent of the world's transaction revenues come from a sap system. More than 437,000 customers in 180 countries use sap from all over the world. In more than 140 countries, 99,000 + employees work in sap from all over the world. Sap has more than 18,000 partners worldwide. Sap has a total revenue of EUR 24.74 billion in the 2018 fiscal year. Sap has more than 200 million subscribers in our cloud user base. It has more than 100 centres of innovation and development. (Wikipedia, 2017)

Sap is the best dynamic software in this business era and Sap S/4 Hana is the latest ERP system of Sap. Sap s/4 Hana is the market leader in business applications for enterprises. Sap is the one off the largest independent software manufacturer. Sap allows companies

to streamline procedures, use live data, forecast consumer behaviour, link entire organizations.

SAP S/4 HANA is SAP's next-generation business suite designed to help organizations run and manage enterprise resources digitally. Sap s/4 Hana is the biggest innovation since SAP R/3.its connect people, Business networks and devices so easily in a short period of time. It represents efficiency, simplicity and innovation. The latest package is based on SAP HANA, an innovative in-memory architecture, and provides a personalized user interface with SAP Fiori. (Quora, 2018)

Originally SAP used databases owned by other providers. Now, SAP uses HANA - its database which offers 'real-time' analytics, stores data 'in-memory' and is column orientated for the comfort of use. Sap s/4 Hana's master data is managed centrally, for example partners, customers and vendors. It enables the company to support and optimize its business processes. This allows the organisation's smooth running. It has a real-time, scalable and flexible environment.

The completeness of the product is one of the reasons companies have more long-term plans for SAP S/4HANA. It's quite a challenge to recreate the business suite's wealth of functionality, but financials, sales and logistics are now available, and most industry-specific solutions will soon follow. To order to reduce potential conflicts between the sectors, SAP wants to achieve a proper separation.

SAP is the world's no. 1 cloud business software company. SAP has been around more than 30 years, helping companies streamline their financial and compliance processes. Sap s/4 Hana finance was released in 2014 and has redefined the ERP landscape. sap s/4 Hana finance changes have led to many questions from current and prospective users, companies, clients, and partners. This new product offers capabilities that allows finance organizations to transform into an intelligent enterprise, leverage new technological advances, reduce costs, and make informed business decisions using accurate, real-time data.

Sap s/4 Hana has different modules for different purposes. Sap fi module are just one of them. SAP FI is one of SAP ERP's essential modules for Financial Accounting. It is used to store an organization's financial data. SAP FI helps to assess a company's financial position on the market. (Quora, 2018)

3.3.1 Sap S/4 Hana

SAP S/4HANA is an ERP business suite based on the in-memory database of SAP HANA that enables companies to conduct transactions and analyse business data in real time.

In February 2015, SAP released S/4HANA to a lot of fanfare, and the company now sees it as one of its core products for customers to migrate to the SAP Business Suite ERP platform as the next-generation successor. S/4HANA is meant to be easy to use and maintain thus helping to solve increasingly complex issues and handling far greater amounts of data than its predecessors. It is offered in on-site, cloud and hybrid delivery configurations, with SAP driving its customers firmly towards the alternative of cloud.

SAP S/4HANA is short for SAP Business Suite 4 SAP HANA, which means it is the fourth edition of SAP Business Suite but is intended to run only on SAP HANA. S/4HANA started with SAP HANA, the 2011 in-memory platform. SAP HANA allowed large volumes of

operating and transactional business data to be analysed in real time. SAP released SAP Business Suite on HANA in 2013, a HANA-based ERP framework that included CRM modules, this screenshot shows SAP S/4HANA's general ledger. SAP S/4HANA SRM, PLM and SCM's general ledger page. HANA suite was basically the front end of the SAP ERP business applications running on the back end of the HANA in-memory database. S/4HANA has been written in HANA rather than running on it.

SAP S/4HANA demanded that the database definition be reconsidered and that 400 million lines of code be rewritten. The improvements, according to SAP, enable the ERP program easier for developers to know and use and more agile. SAP sees S/4HANA as an incentive for organizations to develop business models and generate new sales by connecting people, computers and enterprise networks to take advantage of the Internet of Things and Big Data.

Furthermore, since S/4HANA does not require batch processing, businesses may automate and operate their processes in real time. According to SAP, this ensures that business users can get real-time visibility into data from anywhere for preparation, implementation, analysis, and simulation. (Techtarget, 2020)

One of the S/4 Module to run on SAP s/4HANA Finance. This module saw a significant change regarding how financial data was stored in the SAP system. SAP S/4HANA Finance is part of S/4HANA and is built on the SAP HANA in-memory database platform. S/4HANA integrates cross-organizational functions into one system that combines transactional processes and analytics for real-time applications

It is designed to remove traditional barriers between transactional, analytics, and planning systems to provide instant insights and on-the-fly analysis using all levels of financial data. Fast in memory database .it can consume and process very very higher volume of data. It has beautiful user experience. Hana simplified data for ERP. (Techtarget, 2020)

3.3.2 Evolution of ERP by Sap :

Saps platform has grown significantly over the past 47 years, from the first mainframe database launch in 1972, to sap R/3 with desktop access in the early 1990s, to SAP ERP in the middle of 2000s, and now to sap Hana, with its memory server and next-gen SAP software suite. Sap Hana represents saps moving to the digital centre, offering unparalleled speed, real-time data, predictive analysis, and a simplified process environment for customers.

History in a view:

1981/82: R/2

1986-89: R/3

2004: SAP ERP

2011: SAP HANA (in memory platform)

2012: SAP business Warehouse powered by SAP Hana (real time analysis, real time reporting)

2013: SAP business suit powered by sap Hana (real-time business, OLAP and OLPT together, sap Hana enterprise cloud for sap business suite on sap Hana.)

2014: Sap simple Finance Powered by SAP Hana (instant financial insight, no aggregates, single source of truth)

2015: sap s/4 Hana (simplified data model, new user experience, advanced processing, choice of deployment)

Sap s/4 Hana finance, as a part of sap s/4 Hana enterprise management solution, is a set of foundational finance and other business process automation solution built on an in-memory computing platform

Originally, the sap Hana framework was launched in 2010, providing an in-memory information repository capable of processing large data from the SAP ERP system, the SAP software suite and even non-sap. Often confused with saps/4 Hana, sap Hana is the saps/4 Hana business suite's data platform. SAP Hana is available with options for cloud, on-premise, and hybrid deployment.

SAP s/4 Hana, a new business suit with cloud and on-site editions, was released in 2015. SAP s/4 Hana provides finance, accounting, control and supply chain applications and integrates with applications such as ap Ariba, sap concur, sap field glass, and sap SuccessFactors. (Rub, 2018)

3.3.3 SAP ERP and SAP HANA

In the last 23 years, sap ERP has been the centre of ERP, and the release of sap s/4 Hana has changed the face of ERP again. Not only does it have transactional data access, but sap ERP now also has integrated advance analytics allowed to assist users with self-service reporting and real-time data processing. The key differentiator is in-memory computation and column-based data storage which enables analytics to run faster in saps/4 Hana.

Below are some of the advantages of sap s/4 Hana compared to sap ERP:

- sap Fiori applications are an innovative face of analytics that enable users to gain insights into real-time data for quick decision making.
- Using SAP Hana's in-memory server as its heart, sap s/4 Hana helps improve live data preparation and evaluation and enhances forecasting.

The introduction of cloud solutions in sap s/4 unlocks the door for consumers to experiment for internal and external information. In turn, each sap s/4 Hana module provides additional benefits and improvements to enhance and refine the system. Some of the saps/4 Hana benefits are listed below:

- Faster financial closing and inter-company resources, optimization of procedures and software quality in real-time
- A single version of the truth that can be accessed throughout the financial system, up-to-date data
- Boost money analysis and help determine cash flow
- Help with real-time availability of data in better financial planning
- Enabling predictive analysis can improve productivity by helping to develop automatic reconciliation processes
- Centralized funding in a specific service model
- Supporting international upgrading of legislative and legal standards
- Advanced technology and computational technologies such as machine learning, IOT, internet and embedded computing have been made available for funding.

The integration of s/4 Hana comes with embedded analytics and several additional benefits, with several advanced next-generation innovations that support companies gain understanding, simplify procedures, and make better informed decisions. (BARDHAN, 2017.)

3.3.4 On premise versus public or private cloud:

Selecting the best technology implementation is a critical component of all the effectiveness of a sap s/4 Hana financial transition. There are various technical considerations to tackle in order to fulfil the business requirements.

The common question that each organization faces concerns the delivery choices of their sap s/4hana system: whether to deploy on-site or cloud, and if the response is cloud implementation, further analysis of private or public cloud is called into question.

Deployment on-site, which incorporates conventional on-site IT architecture models, poses several challenges, such as meeting ever-changing business demand, preserving technology complexity, attracting on-site expertise, updating criteria, and keeping up with ever-changing innovations. Both these must be dealt with in a prompt and cost-effective manner. As a phrase, the cloud is a sword with two sides. With recent technological advancements, cloud services provide a way to keep up with changing technology. The term cloud is also imprecise, misused, and perhaps easily misunderstood.

Cloud technology provides a way to reconsider ways to address an ever-changing knowledge requirement. Adopting cloud technology is more than just adding a different system. To really achieve the advantages of cloud computing, an enterprise will need to focus on developing a strategy, constructing a roadmap, working about service delivery models, and, most significantly, raising awareness about new technologies across the organisation.

Through greater management and efficiency, cloud computing allows the use of common technological tools with strong economic value.

The infrastructure as a service model promises cost-saving and agility to run sap s/4 Hana. The infrastructure as a service model helps us to move our emphasis from infrastructure building to the operation and use of that infrastructure with an efficient, OPEX-driven and stable paradigm.

Traditionally, sap landscape was founded on on-site equipment. Current implementation frameworks have been developed by sap and cloud innovations that significantly reduce network and operation costs. (BARDHAN, 2017.) (Mehta A. , 2018)

Key comparison between Sap S/4 HANA on-premise edition a Sap S/4 HANA cloud edition:

	Sap S/4 HANA on-premise edition	Sap S/4 HANA cloud edition
Licensing models	Traditional licencing	Subscription licencing
Infrastructure and maintenance model	The customer is in control of deployment and maintenance with dedicated own it staff	Sap provides the system and is responsible for its maintenance

Speed of innovation	Customer has full control over speed of innovation plant downtimes changes within the system changes of the system.	Cloud customers participate automatically on quarterly innovation upgrades.
Implementation approach	Highly individual requirements regarding business processes and customization	Predefined best-practices configuration with limited specialization.
Functional scope	Full ERP scope (including SAP S/4 HANA applications), integrations with SAP success factors employee central, SAP C/4 HANA, SAP Fieldglass, SAP jam, and Ariba network	Key Scenarios, embedded ERP scenarios, integrates with sap success factors employee central, SAP Fieldglass, Sap C/4hana, SAP jam, and Ariba network.
Custom code	Full traditional ABAP extensibility up to core modification (not recommended for TCO reasons)	In-app extensibility with limited ABAP, SAP cloud plat form as extension platform for large extensions

(BARDHAN, 2017.) (Mehta A. , 2018)

3.4 Financial accounting in SAP

In today's world, competing factors such as increased scrutiny of financial information, fast-changing technology, and demand for near-real-time information force financial organizations to take a fresh look at their processes, technologies, and talents in an integrated manner. These changes, while diverse and challenging, offer great opportunities to enhance the role of finance within the world.

Digital disruption is a new standard for consumers today, ranging from phone apps to home automation to cashless trade and beyond. Robots work together with people in business to build cars, deliver packages, design computers, and deliver electrical goods. Blockchain tracks the supply of monitoring equipment for diamond construction. And intelligent machines take up hospital residence, shipping containers, drug stores, and more.

The same innovations will come to every company over the next seven years promising to make financing easier, faster, and potentially less expensive. We're doing the work and how we can do it. Financial transformation is a methodological approach that helps CFOs and financial organizations in their business performance and shareholder value while improving operating efficiencies at the same time.

The SAP Financial Accounting (SAP FI) module is the core of SAP accounting as it tracks financial transactions of all product supply movements and other business transactions between the company and its customers and vendors. From an accounting perspective, the SAP FI application represents a corporate general ledger (G / L). SAP FICO (FI & CO) are two separate accounting books where SAP FI is used for Balance sheets for external reporting, Profit & Loss statements and SAP CO (Controlling) for internal reporting.

SAP Components of the financial accounting module enable to meet all the requirements of an organization's financial accounting department. The important features of FI are SAP FI

records all business transactions from the financial statements to the individual documents with an unbroken audit trail.

The posts in sub ledger accounts always create a posting on the corresponding G / L page . The data is available in real time, so it is possible to access the financial accounting details through the company. All transactions performed in logistics are posted by automated account determination to the Financial Account module to ensure that the valuation of the goods and services in accounting is precisely reflected

Prepare an analytical knowledge and provide successful strategic decision making.

The SAP FI platform can be integrated with other SAP frameworks covering inventory procurement, sales and distribution, project processes, human resource management managing production planning, payroll, etc. (Kart, 2018)

3.4.1 Sap s/4 Hana finance: Fi module

SAP FI is for Financial Accounting and it is one of important modules of SAP ERP. This is used to store an organisation's financial records. SAP FI assists in the study of a company's financial conditions on the market. These will integrate with other SAP modules such as SAP SD, SAP PP, SAP MM, SAP SCM, and more.

Some Benefits of this module:

- The whole finance value chain is digitizing
- Transform system automation from record system to decision support system by using data proactively and intelligently.
- Executive dashboarding and the opportunity to directly engage in the transaction helped optimize analytics benefit.
- Active kips are front and centre in role-based dashboards, designed to increase productivity by focusing on the most important information.
- Supported real-time analysis and strategic decision-making to move the business lens from retrospective to forward-looking
- Business planning and consolidation with sap business planning will be embedded in the same transactional database, enabling actual / plan reporting, with line-by-line details. (KRÜGER, 2016)

SAP FI comprises of the following sub-components –

- Finance Accounting General Ledger: A General Ledger includes all the information of a company transaction. To hold all financial records, it serves as the primary record. Specific general ledger entries are consumer payments, supplier purchases, and internal business transactions.
- Finance Accounting Accounts Receivable and Payable: This includes the amounts payable by the customer and the amount paid by the company to the vendors. In other words, all vendor transactions are included in AP and all customer transactions are included in AR
- Finance Accounting Asset Accounting: Asset Accounting deals with all the company's fixed assets and includes details of all payments on fixed assets. The asset accounting module of Finance Management works closely with other modules such as SAP MM, SAP Plant Management, EWM and so on. When a company buys an object that can be called an asset, the data will be moved from the SAP MM module to the Asset accounting module.

- Finance Accounting Bank Accounting: It deals with all transaction's dependent on the banking. This contains both incoming and outgoing payments, account management, and master data for bank transactions. Using the bank accounting part, we can generate and process any form of bank transactions.
- Finance Accounting Travel Management: This system is used to monitor all the company's travel expenses. This covers all the applications for travel, their scheduling and expenses involved in all the trips that are needed. This allows a company to effectively manage travel expenses as it offers compatibility with all other SAP modules.
- Finance Accounting Fund Management: This module is used for the management of funds within a business. The Fund Management module works with other modules such as Bank Accounting, General Ledger (G / L, SAP AR / AP, and SAP Inventory Management, etc. to get specifics of the fund. It includes all transactions for receiving funds, fund expenditures, and potential expenditure. It helps a organization build budget estimates to use the funds properly.
- Finance Accounting Legal Consolidation: This allows an organization to identify its different entities as a single entity, thereby allowing its details to be viewed as a single financial report for all relevant enterprises. Older versions of SAP ERP implementation supported FI-Legal Consolidation module. (KRÜGER, 2016)

3.4.2 Where Do We Use SAP FI?

The SAP FI module facilitates the management of financial accounting data through various entities, currencies and languages within an multinational context. SAP FI module mainly deals with the following financial components:

Fixed asset/asset accounting

Asset accounting is a sap s/4 Hana branch ledger which manages asset master information, purchase of resources, depreciation of assets, withdrawal of assets and more. Throughout saps/4 Hana, asset accounting has been thoroughly completely revamped and now fully integrated with the general ledger, with all resource type information contained in the central database.

The part Asset Accounting (FI-AA) is used with the SAP system to control and supervise fixed assets. For Financial Accounting, it offers detailed information on transactions involving fixed assets as a subordinate register to General Register. (Mehta A. , 2018) (Tutorialspoints, 2020)

Accrual

Income and expenses are registered as they exist, regardless of whether cash has changed hands. A great example is a credit sale. When the invoice is produced rather than when the cash is received, the payment is recorded in the ledger. Additionally, a bill happens when the supplies are purchased or when an individual has signed in for a full day, not when the report is written. The downside of this approach is that before receiving it, receiver pay income taxes on wages. If the annual sales of the company reach \$5 million and the enterprise is organized as a corporation, the accrual approach is needed. Therefore, the accrual approach must also be used by organizations with product. For any business that

sells on credit, it is also highly recommended as it more closely suits income and expenses over a given period. (Entrepreneur, 2020)

Cash journal

The cash journal is a bank management subledger. It is used to handle the cash transactions of a business. The program records and shows the opening and closing balances automatically, and the cumulative transactions and payments. For each business application, users can run multiple cash papers. And also add to G / L profiles, seller and client accounts. The cash newspaper is a bank accounting sub-leader. It is used to handle the cash transactions of a business. The program records and shows the opening and closing balances automatically and the cumulative transactions and payments. For each business application, somebody may run multiple cash papers. They can also add to G / L accounts, seller and client accounts. (Mehta A. , 2018) (Tutorialspoints, 2020)

Accounts receivable and payable

Accounts payable deals with vendors and outgoing payments. It is a subordinate ledger to the general ledger and a real-time posting to the general ledger. All vendor-related transactions (payments, credit memos, debit memos) are included in the sap accounts payable module. Payable accounts are closely integrated with the sap operating system.

Accounts receivable is a branch sap ledger concerned with consumer invoices, billing notes and payments.it reports directly to the general ledger in real time. Accounts receivable is closely incorporated with the saps marketing unit. The main objective of a financial receivable director is to make refunds on available client invoices on schedule, thus maintaining the days of revenue unpaid down and improving the cash flow in a business. This also involves the follow-up of late payments, the mailing out of dunning notes and finally the write-off of bad debts. Sap Ariba extends the conventional source-to-pay features provided by the Ariba network in sap ERP. Ariba network is a B2B marketplace where sellers and buyers interact. Seller put up their products and consumers may browse for products offered by vendors and necessary merchandise. Like other typical B2B sites such as eBay or amazon, sap Ariba provides deals, sales applications, purchase orders, RFQs, RFPs and several other things needed by companies for regulatory purposes. Sap Ariba is now the preferred tool for most organizations to introduce sap s/4 Hana. It combines on-premise or cloud sap, s/4 Hana, with generic adapters to share vendor master information, post to financials and pay the vendor.

Inventory

The inventory management deals with stock management, either based on interest or quantity. It involves planning, entering in, and maintaining track of all goods movements. Goods movement produces a database that updates the quantity and value of all products in the inventory known as the stuff.

Tax accounting

Tax accounting is a system of tax-focused methods of accounting, rather than public record presentation. The Internal Revenue Code governs tax administration and sets out the basic guidelines that corporations and individuals are to follow when filing their tax returns.

Tax accounting is the accounting system that applies to taxation. It applies to all— people, companies, organisations, and other bodies. Through tax accounting all those exempt from

paying taxes must be interested. Tax accounting is intended to track funds associated with individuals and entities (funds in as well as money going out).

General ledger

General ledger accounting in sap deals with managing ledger account master data, posting financial journal entries, and running financial statements.it also includes internal management reporting requirements.

Sap s/4 HANA offers several fundamental changes across all systems due to the revolutionary underlying technology and a few redesign sap ERP. Until sap S/4 Hana finance, the sap had a clear distinction between funding and handling in functionality and the related tables. Finance had journal entry elements necessary for external financial reporting, whereas controlling had account assignments required primarily for internal management reporting. In saps/4 Hana financing, also due to the availability of universal journal, which no longer exists. In contrast to the fundamental technical changes, here is discussion of some of the major changes that impact how users interact with the program.

The key processes in general ledger accounting

- Fast close functions
- Financial statements
- Parallel valuations
- Master data governance
- SAP FI consultants are mainly responsible for implementing Financial Accounting and Cost Accounting with SAP ERP Financials. (Mehta A. , 2018)) (Tutorialspoints, 2020)

3.4.3 Reporting

Sap s/4 Hana provides a fundamental shift in the media model, largely because of the standard journal's accessibility. Many of the detailed fields previously available in subsidiary ledger tables, total tables, and detailed line item tables are now available in the single consolidated journal entry database. This provides users with the infinite ability to report data and query subtotals and total on the jump, as well as the ability to drill down to line-item detail directly from source data.

All the basic standard reports available in sap ERP are also available in sap s/4 Hana. In addition, there are new reports and sap Fiori applications that query the database to provide a much more flexible way to report date. In sap s/4 Hana finance they are online, allowing users to include additional sectors, pivoting multi-dimensional reporting and finding out the smallest granular data.

This type of real-time on the fly processing is very powerful and was not possible in SAP ERP before. This involved running the financial statement, seeing a balance on an account, running several additional documents on an asset account, running material ledger and controlling and then consolidating the details into excel pivots to get to the information required. anyone can do all this live in the process in sap s/4 Hana, with the incredible pace that can display the outcome in seconds for thousands of records. For example, if in the financial statement someone looked at an asset depreciation account and tried to see the balance per asset group that was not possible previously.

A specific depreciation document of resource classes inside asset accounting was provided and the total number was reconciled with the information in the asset statement. For sap s/4 Hana, in the financial statement, user can see the asset depreciation account balance, add the

asset group area to the information grid as a row or column to the software pivot centered on asset groups In fact, if anyone decided to see all the line items that make up the depreciation balance for a certain group of resources, anyone would just double-click on the balance to see all the line items with all the line item information that the program collects. (BARDHAN, 2017.) (KRÜGER, 2016)

3.4.4 Pros

- Robust infrastructure
- Powerful features
- Able to make the payment process more effective
- Easier to analyse and recognise the underlying transactions while carrying out systematic evaluations.
- Has good capabilities for complex restructuring and multi-country currency structures

3.4.5 Cons

- Conversion process which is complicated and time consuming.
- The conversion steps took a lot of time during the testing and analysis of mapping problems.
- Important to have at and location a well-trained superuser who can assist other team members during and after the conversion process.
- Because the program has so many features, there are plenty of new things to learn, too.

3.5 Oracle NetSuite

Product: NetSuite ERP

Vendor: Oracle

Founded: 1977

Headquarters: Redwood Shores, Calif

Ownership: Public

Customers: 40,000+

Deployment Model: Cloud

Free Trial: Yes

One unified business management suite, encompassing ERP/Financials, CRM and ecommerce for more than 19,000 organizations. NetSuite Enterprise Resource Planning (ERP) provides a new, flexible solution for the cloud management of all main back-office activities and financial processes. Virtual finance and accounting platform NetSuite lets finance executives plan, automate and streamline their systems and activities NetSuite successfully combines key financial and accounting functions with sound policy management, improving market efficiency and raising near-financial profitability while increasing back-office costs. Anyone can easily find information through real-time exposure to live financial data to overcome issues rapidly and produce documents and reports that

satisfy various statutory financial compliance requirements such as ASC 606, GAAP, SOX and others. (netsuite, 2020)

3.5.1 Overview

NetSuite is designed to automate and streamline mission critical operations for companies as they expand. This, in turn, allows them to continue to focus on what they do best, and to react quickly and confidently to new market opportunities. NetSuite ERP offers businesses with the resources they need to fuel development and drive innovation, from integrated financials and supply chain tracking and billing and beyond.

General Ledger

NetSuite turns General Ledger from a static one-size-fits-all to a dynamic tool that allows businesses to customize the General Ledger to suit their unique business demands and changing conditions. General Ledger by NetSuite offers consistency and clarity to accounting experts, better monitoring features, improved audit trails and new support of global financial management.

Accounts Receivable

Added liquidity to finance growth, reduce the credit-to-cash process, improve service levels and take advantage of new investment opportunities as they emerge with NetSuite's Receivable Accounts solution. Take the payment processes into the 21st century with end-to-end AR expertise to simplify and streamline any element of the distribution of invoices, repayment terms and collections.

Accounts Payable

Boost profitability, reduce financing shortages, generate higher income and ensure compliance through the leveraging of NetSuite Accounts Payable software that automates invoice collection and payment.

Tax management

NetSuite's configurable tax engine provides end-to-end domestic and global tax processing through a fast, easy-to-use program that produces detailed transaction analysis reports in real time down to line item tax details. Tax management solution NetSuite streamlines the process of global tax enforcement, saving time, reducing costs and mistakes.

Fixed Asset Management

NetSuite Fixed Asset Management helps you to manage and control the entire lifecycle through depreciating or non-depreciating assets from development to depletion, revaluation and disposition and support for international markets. NetSuite Fixed Asset Management enables detailed asset management, including repair and compensation plans, while ensuring an appropriate accounting framework to protect the credibility of the fixed asset data always.

Cash Management

NetSuite's Cash Management approach helps treasury departments to be more proactive than ever before and concentrate on expanding the treasury enterprise while offering a complete overview of the cash flows and cash position of the business. NetSuite's Cash

Management offers the insight and transparency the finance team requires to leverage money, track bank accounts, monitor liquidity, and provide compliance.

Payment Management

NetSuite Cloud Payments is the smart way to directly fulfil all payment processing needs from within NetSuite. If any company accepts payments via online self-checkout or for settling an outstanding invoice, user can satisfy any customer preferences. And because it works easily with NetSuite, user will have real-time exposure to payment information. Suite Payments is a complete solution for the processing of payments that facilitates most payment options and helps avoid fraud. (netsuite, 2020)

3.5.2 PROS

- Solid management of customer relationships.
- Broad resource planning features apply to a wide range of enterprises.
- Excellent graphical analysis capabilities from various views of the system.
- Straightforward reporting.
- Workflows customized to process.
- The Dashboards are easily navigable, hierarchical.

3.5.3 CONS

- The help system is confusing.
- Specific roles hard to configure system.
- Wide collection of features but complex. (Needleman R. M., 2018)

3.6 Microsoft dynamics 365

Microsoft Dynamics 365 is the latest generation of Microsoft Cloud Solutions-based business apps such as Dynamics 365 (ERP & CRM), Office 365, Power BI and Azure. Microsoft Dynamics provides us options of smart business software through CRM and ERP. Since 365, Dynamics AX, NAV and CRM were made available by Microsoft as separate business applications that could be combined if needed. Today Microsoft Dynamics 365 is a complete solution product that companies can use as templates, focused on procedures and/or responsibilities, to use what they need when they need it.

Dynamics is a new cloud-based enterprise software framework, bundling ERP, CRM, and HCM tools in one simplified, Cumulative bundle alongside Power BI monitoring functions.

With its ERP and CRM applications divided into several devices, Dynamics 365 is designed to allow users to start with what they need and expand at their own speed, adding new apps and features when they need them.

The solution will be based on Azure (a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through Microsoft-managed data centers). It will be provided as a software as a service platform, meaning that it will be accessed via a web browser rather than individually installed computers. This will not only mean that Microsoft can handle and automatically apply all changes or improvements, but also that the Dynamics 365 will be available from anywhere with an internet connection. (Wright, 2020)

3.6.1 Overview

Dynamics 365 consists of a few apps that cover a wide spectrum of business processes; customer relationship management, financial planning and monitoring, scheduling, and human resource management roles are included within a single structured system.

That separates Dynamics as well as bringing all these applications under one roof is its common data architecture, which enables the data to be exchanged between these devices.

That separates Dynamics as well as bringing all these applications under one roof is its common data architecture, which enables the data to be exchanged between these devices.

Fixed Assets

Fixed assets are valuable products, such as buildings, cars, land and equipment owned by an person or company It is not all that is normal to find Fixed Assets capabilities in an ERP or a SME market-oriented accounting system. Even if one is available, however, it's often an optional, extra cost module. Dynamics 365 provides fixed asset functionality as part of its Simple kit which is a nice touch. Assets are entered into the asset card program which includes an asset description, cost and date of acquisition, and the desired method of depreciation. Dynamics 365 has the traditional depreciation methods measured using the Half Year Convention, including Straight Line, Declining Balance, and Depreciation. Users could define their own method of depreciation, too.

In each country / region the way capital assets are managed will adhere to both international accounting principles and accounting legislation. Specifications may include rules for reporting transactions including fixed asset acquisition and sale, depreciation, duration, and write-ups and write-downs. Fixed asset design embodies many of those criteria and laws. (Microsoft, Microsoft, 2017)

Accrual

Accruals are used in accrual accounting to track income recognized in the timeframe in which it is received, not on receipt of payment, and to track expenditures (costs) recognized when they arise, not when payment is made. Allocations are used to allocate sums over combinations of several ledger accounts. They help ensure that expenditures or taxes are paid in accounting for the appropriate thing. By the use of assignments and accrual features in Dynamics 365 Finance, financial leaders can build guidelines, customize source and destination, and schedule the task only once. (Microsoft, Microsoft, 2020)

Inventory

Naturally, as users post purchase and sales documents respectively, inventory increases and decreases are reported too. The modified item cost is reported in item value inputs when users post product transactions, such as sales shipments, purchase invoices, or product changes. In order to represent this adjustment in inventory value in financial statements, inventory expenses are automatically added to the relevant inventory accounts in the general ledger. For each inventory transaction posted by the customer, the related amounts are reported in the general ledger to the inventory account, the change account and the COGS account.

While inventory costs are immediately added to the general ledger, there is still a need to ensure that the cost of the goods is passed on to the associated outbound selling transaction, particularly in circumstances where the consumer sells the goods before the consumer invoices the purchase of those goods. It is called cost improvement. As

consumer post purchases, the cost of items is automatically changed but even the cost of items can be modified manually. (Microsoft, Microsoft, 2020)

Tax accounting

Tax engine is an integral part of the configurable business application interface of Dynamics 365 Finance. It is highly customizable and allows a business user, functional consultant, or power user to configure tax rules based on legal and business requirements that determine tax applicability, calculation, posting, and settlement. The tax accounting company is the sub-leader impacted by the fiscal accounting situation. For example, in the purchase flow, the tax accounting provider is a Party / Vendor if tax is to be paid to the vendor as part of the vendor invoice. The list of tax accountants depends on the ERP program on which they are based. For Finance, the following tax accounting providers are available:

- Party
- Inventory
- Tax
- Ledger (Microsoft, Microsoft, 2017)

General Ledger

The General ledger module in Finance to define and manage the legal entity's financial structure. The general ledger is a register of debit and credit entries Dynamics 365 Finance empowers business users to track finances and handle funds with reliable financial planning and forecasting details at any time, and keep up to date with analytics. Since finance is the center of industry, and the General Leader module is the center of financial management. (Microsoft, Microsoft, 2020)

Accounts Receivable

Configure the Accounts receivable module in Dynamics 365 Finance to create customer invoices, post packing slips, and use free text invoices that are not related to sales orders. (Microsoft, Microsoft, 2020)

Accounts Payable

Accounts payable are a liability due to a creditor when user order goods or services without paying in cash up front, which means that user buy goods on credit. (Microsoft, Microsoft, 2020)

Tax management

All corporations are obliged to collect and pay taxes to specific tax authorities.. Different countries or regions have different rules and rates. In some countries or regions, the rules differ between states, counties, or cities. And thus the Dynamics 365 Finance tax module is comprehensive.. (Microsoft, Microsoft, 2020)

Payment Management

Business Central enables the use of the payment management system to handle exchange bills, electronic payments, and vendor payments.

These will use payment slips to handle customer and salesperson payments. Before making a payment slip, the user must set the following prerequisites: payment class—the form of payment the user wishes to make, e.g., exchange bill, electronic payment, or check.

Payment status–The progress of a payment document. For each payment class, the user must identify a collection of statuses.

Payment steps– Payment made at a given time. User can transfer the payment document from one status to another after a payment phase is complete. Within the Payment Step Ledger table, if a step includes posting debit or credit entries, the User must specify additional actions.

Payment address for vendors and consumers-The address used at the time of transaction by a vendor or a customer. The payment address can vary from the default address of the vendor or customer (Microsoft, Microsoft, 2019)

3.6.2 PROS

- The Business edition offers extended capabilities and features.
- Will generate Microsoft Outlook revenue figures and invoices which are automatically reflected in the accounting system.
- Launch screen offers a clear view of main performance metrics, available products, and client results, including a summary balance of the trials.
- Really close alignment with Office 365.

3.6.3 CONS

- Lacks detailed management of company partnerships, payroll / human resources, and elements of project management.
- FIFO is the primary tool for costing inventories.
- Navigation with method flowchart is missing. (Needleman T. , 2018)

3.7 Brief overview of ERPs

In summary, for financial accounting all ERP system has their basic accounting sub-modules like in SAP S/4 HANA has Fixed asset/asset accounting, Accrual, Cash journal, Accounts receivable and payable, Inventory, Tax accounting, General ledger. In Oracle NetSuite has General Ledger, Accounts Receivable, Accounts Payable, Tax management, Fixed Asset Management, Cash Management, Payment Management, And in Microsoft dynamics has Fixed Assets, Accrual, Inventory, Tax accounting, General Ledger, Accounts Receivable, Accounts Payable, Tax management, Payment Management. All these terms are same for all ERP system in financial accounting. But user manual is different from one to another

though goal of these ERPs is same. There is not too much things to differentiate one ERP system from another by these sub-modules.

4 Practical Part

4.1.1 Research Questions

Based on the objectives set above and conducted literature review, we will formulate following research questions.

RQ1: *Which ERP System is better for a financial company?*

RQ2: *What are the main criteria for ERP selection?*

RQ3: *What are the main differences between SAP S/4 HANA, Microsoft Dynamics, Oracle NetSuite?*

The research will be done on an example of a large enterprise in financial industry in Bangladesh.

4.2 Case company - IDLC

It's began together in 1985 with 5 staff members, 33 years down the road, was the first lease finance company that developed as the country's largest multi-product multi-segment Non-Banking financial institution. Being one of the industry's most recognized financial brands, IDLC Finance Limited has a wide and broad footing in the segments Business, SME, Retail and Capital Market.

Today, IDLC has more than 20 cities, served by 40 branches and booths with more than 1400 staff, serving over 45,000 customers. However, it'd be constricting to say that they are merely within the financing business, as they plan to do something more. They try to help people achieve their dreams-the dream of buying a home, the dream of sending their kids to a much bigger school, the dream of getting a picnic in the family car, the dream of starting a company or growing it, the dream of creating more jobs, the dream of bringing the state to heights.

To this point, what really inspires them is not only the amount of people they hire, or the number of clients they represent, but the amount of lives they've touched. Whereas profits are vital to them, they are also extremely proud to be the reason for countless smiles. (Engagement, n.d.)

4.2.1 Current state and needs analysis

IDLC has more than 1400 employees. To integrate all employees in a same system it should use any of above mentione ERP system for its financial activaties. Its current system is not a integrated software system. If IDLC use Erp system it could minimize employee cost. And it has more than 45,000 clients . If IDLC implement a better ERP system they can get all customers data in the system and they can make the system faster.Until 30th september 2019 it has total assets of 1,372,407,437 USD (116,463,434,086 BDT). And from january 2019 to september 2019 it has profit after taxation 1,4507,971 USD (1,307,531,008 BDT). By using

any of above mention ERP system it can maximize its net profit. Because old system employees have too much work pressure. Also it has poor employee evaluation, its evaluation is not fully objective and where perception always plays a crucial role. And linear career progression. Being a Financial Institution there are some limitation on issuing cheques and trading foreign currency.

A little bureaucratic problem is also a problem in IDLC. Better ERP system can reduce this problem. Training facility to the new comers and up to mid level position is poor. If they use ERP system (above described) employees can training themself through online training or IDLC can train them easily. The HR should be more active. For more effective HR ERP system should be implemented in IDLC.

4.3 Criteria formulation

4.3.1 PRICE

The price for ERPs finance module is different from each other. There is no exact amount for any module. For financial module its also vary from company to company. Consultant can give a assumption for the price of ERP system. But, while Company is going to buy ERP system from the survice provider only then ERP provider will disclose the price for exact module. Most of the ERP systems are per-user priced. Specifically, the number of users using the system at once, and the level of access they require.

The total cost of implementing an EPR is SAP \$16.8 million; Oracle \$12.6 million; and Microsoft \$2.6 million. Total annual ERP costs were divided between maintenance (35%), services (including upgrades, integration and consulting work—34%), and licensing costs (32%). (Wailgum, n.d.)

Dynamics 365 focuses on small and medium-sized enterprises (SMEs) and is available on a cloud-only deploy basis. Prices start at \$40 per user per month, but each member of the team (defined as users who need only observe but don't enter or change information) pays only \$5 per month. (Needleman T., 2018)

One can also buy Dynamics 365 for the Finance and Supply Chain as separate programs. For Finance or Supply Chain a full system consumer is \$180 a month. Need both requests, then grant one for \$180 and the other for an extra \$30 a month.. (Microsoft, Microsoft, n.d.)

NetSuite is built and written exclusively for the cloud, starting at \$999 per month along with \$99 per device per month. This makes it the exception to its competition, a choice that has paid off for Oracle NetSuite, earning it the designation of their Editors' Preference in the ERP category.. (Craig, 2020)

4.3.2 Implementation Time

There is no specific timeframe for implementing an ERP project, because this varies from various situations to various. In general, it takes anywhere between 6 months and 2 years to implement an ERP project. Nevertheless, it can vary widely depending on the size of the business, the nature of the installed system, planned concurrent users, the number of individual instances being set up, and the transition or integration of data from legacy systems. It is important to adopt a proactive mentality with so many variables for the project because in the long run it will pay off not to hurry the process. It is crucial to concentrate on the relationship between vendor and customer at the beginning and during the project. On each side, an open dialog is necessary to understand the business needs and how the program can best be applied to meet them.

Without the full involvement of both sides in requirement elicitation, the chances of project failure are increasing incredibly quick. In later stages, too, this interchange continues. Vendor and customer are expected to train potential users to use the program and see the value added to the business. It's a method that can take some time depending on the depth of the necessary training.

So while it is impossible to estimate the timeline of any project before the requirements are fully defined, the client should be aware of how long it will take to implement the ERP. This is by no means quick, and can not be rushed. It's a process that needs to be carefully navigated to change the way the organization functions. A customer may develop an implementation plan with a vendor setting benchmarks along the way to checking. They can speak together to understand the variables that may increase or decrease project duration. It takes respondents to completely implement SAP 20 months for the ERP solution; Oracle 18.6 months; and 18 months for Microsoft. (Wailgum, n.d.).

4.3.3 Users satisfaction

In the last few years, enterprise resource planning (ERP) systems have been implemented by companies in developing countries. Whatever the various advantages of the ERP system, its adoption and implementation was not without problems. Many companies assigned significant organizational resources to their ERP projects but faced unexpected challenges. The neglect of a number of important factors in ERP projects could result in failure rather than success. User satisfaction is among those factors that have a significant impact on successful implementation of ERP. ERP users with more IT experience, and more educated users, are more satisfied with ERP software.

While implementing an ERP system in a organization can be of great benefit, achieving those benefits depends on getting the ERP system successfully implemented. Effective implementation of ERP systems is a very complex task. Implementation of the ERP program is a very complex and time-consuming process due to its wide-ranging alternatives to implementation and complexity of its organizational effect. Whereas some organizations achieve positive ERP adoption outcomes, other businesses have a lengthy, costly and inefficient adoption cycle and are unable to achieve the anticipated benefits. A report (Dezdar, 2012) shows that, on average, ERP implementation projects were 2.5 times longer than expected, 178% higher than the budget, and just 30% of the negotiated benefits. illustrates that, on average, ERP implementation projects took 2.5 times longer than projected, were 178% over budget, and brought about only 30% of the agreed benefits .

ERP implementation projects consumed huge budgets while their success rate was low. ERP adopting organizations usually focus on the technological and monetary features of an ERP implementation project, and forget to take non-technical issues into consideration. In the ERP projects, lack of a variety of important factors may result in failure rather than success. User satisfaction is one of those factors which significantly affect the successful implementation of ERP. To investigate the key factors that constitute satisfaction of ERP users, and to find out if satisfaction of ERP users varies between different user profiles.

An ERP system that lacks user satisfaction is less likely to be used by the user community and generate valuable business outcomes. ERP user attitudes are major factors for the success of an ERP project. Several behavioral factors affect the satisfaction of ERP users and this in turn contributes to an effective implementation of ERP. From the early years of evaluation of the information system, user satisfaction was employed as a metric for IS success. Many scholars have recently stressed the importance of user satisfaction in

determining the success of ERP projects and specific instruments have been developed to assess the level of satisfaction of ERP users. In the ERP system environment, user satisfaction refers to the extent to which users perceive that the ERP software accessible to them meets their needs. (Dezdar, 2012)

The executive team and users were satisfied with the ERP solution was SAP 73 percent (Panorama's "satisfaction rating"); Oracle 62 percent; and Microsoft 69 percent. (Wailgum, n.d.)

4.3.4 Market share

SAP is capitalizing well on the market. They have 24.00% market share leading no. 1 position. Oracle is next behind to SAP but, they have half of SAP which is 12.00%. Microsoft Dynamics are in no.5 position with 5.00% of market share.

ERP Market Share (in %)

Company Name	Market Share
SAP	24.00%
Oracle	12.00%
Sage	6.00%
Infor	6.00%
Microsoft	5.00%
Concur	3.00%
IBM	2.00%
Totus	2.00%
Yongyou	1.00%
Others	37.00%

(Infoclutch, Infoclutch, n.d.)

4.3.5 Number of Users

There so many companies all over the world are using ERP software for their company. Below are 3 charts which explain the size of the company and how many companies are using individual ERP system according to the number of employees.

For SAP S/4 HANA:

Employees	Number of companies
1-10 Employees	175
10-50 Employees	432
50-200 Employees	569
200-500 Employees	342
500-1000 Employees	260
1000-5000 Employees	522
5000-10000 Employees	217
>10000 Employees	600

(enlyft, enlyft, n.d.)

For SAP S/4 HANA maximum 600 companies are using SAP S/4 HANA when they have more than 10000 employees. And for our selected company (IDLC) they have 1400 employees. While companies have employees in between 1000 to 5000, the number of SAP S/4 HANA using companies are 522.

For Oracle NetSuite:

Employees	Number of companies
1-10 Employees	93
10-50 Employees	502
50-200 Employees	621
200-500 Employees	331
500-1000 Employees	214
1000-5000 Employees	198
5000-10000 Employees	34
>10000 Employees	89

(enlyft, enlyft, n.d.)

For Oracle NetSuite maximum 621 companies are using Oracle NetSuite when they have more than 50-200 employees. And for our selected company (IDLC) they have 1400 employees. While companies have employees in between 1000 to 5000, the number of Oracle NetSuite using companies are 198.

For Microsoft Dynamics 365:

Employees	Number of companies
1-10 Employees	17
10-50 Employees	83
50-200 Employees	124
200-500 Employees	61
500-1000 Employees	58
1000-5000 Employees	81
5000-10000 Employees	21
>10000 Employees	52

(enlyft, enlyft, n.d.)

For Microsoft Dynamics 365 maximum 124 companies are using Microsoft Dynamics 365 when they have more than 50-200 employees. And for our selected company (IDLC) they have 1400 employees. While companies have employees in between 1000 to 5000, the number of Microsoft Dynamics 365 using companies are 81.

4.3.6 Regular System Updates

The main reason that businesses stop updating their ERP programs is that fear of interruption.

The system upgrades are done automatically with NetSuite. NetSuite's ERP systems are installed in a multi-tenancy setting, and this model can impact version control and system updates. Once device updates are introduced in a multi-tenancy area, NetSuite's option applies improvements to all clients at the same time. If any user has any unique modifications or adaptations, this may not be desirable because they are likely to be inconsistent with the new system. Timing might also be an issue if the user is in the middle of a busy business cycle when the update causes problems.

On the other hand, the license agreement with SAP S/4 HANA allows them to make technology improvements which restrict the user's ability to update and install updates. Customization of any kind for compatible partners is also necessary. Users can choose when to update the SAP S/4 HANA. Users should schedule updates ahead of time so users can avoid any problems at critical times. The danger with this, however, is that custom modules cannot easily migrate to the upgraded version, causing users to waste time retrofitting codes. (service S. A., n.d.)

Platform updates are product level updates that remedy the performance, security or platform performance issues of the Dynamics 365 for Finance and Operations. They are released monthly, and at all times, LCS reflects the environment's platform update state. Microsoft will send an email notice of the improvements to be introduced with an Action item to the Project stakeholders. Application updates are a two-step process. In the Tier-2 environment, application updates are introduced with a notice of 5 business days to have the changes reviewed in the Tier-2 environment. Microsoft can automatically upgrade its manufacturing system after 5 business days. Updates to infrastructure are improvements to operating system level that help boost the life cycle of the software service package. These changes to operating system level include improvements to Applications, software packs, and Hotfixes. Their average downtime is one hour, which is often in the non-peak hours scheduled. It can still use the software in the event of an operating system upgrade failures, but any potential application releases will be disrupted. (Blog, 2019)

4.3.7 Customisation and Workflow Management

All these systems offer their users good customisation features. Users can easily add customized user-defined fields and tables to manipulate the face of the database for their business to include only relevant elements, records and standardized headings.

The SAP interface stands out because it is particularly user-friendly and has been clearly laid out for the person. Users can control the dashboard using widgets that the user can precisely attach or delete to their preferences, so the user can only display what they need, allowing each dashboard to be customized to the individual user. For example, an accountant may immediately choose to see outstanding bills, while the CEO may choose to know how his sales team works and how much cash flow there has been accessible. Its features are easy to customise and optimize for end users. (service S. A., n.d.)

Dynamics 365 Customer Engagement (on-premises) offers user powerful flexibility and app-making capabilities that don't require a single line of code written by the user. With a comprehensive range of designer and developer tools from WSYSIWYG(What You See Is What You Get), most people can customize Dynamics 365 Customer Engagement (on-site) or build their own custom software. (Microsoft, 2019)

SAP will allow code changes, but this will sadly limit the ability of the customer to update and install changes. NetSuite, on the other hand, has the ability to edit and configure files, documents, KPI's and graphic presentation without needing to change code. (service S. A., n.d.)

4.4 Multi criteria decision making

Selection of ERP system is one of the most important steps in an ERP implementation program and is critical to the success of the system. Due to the inherent complexity of ERP

systems, diversity of available market alternatives and resource limitations in selecting a suitable ERP project are a risky, difficult and time-consuming task for the organizations. Although selection of the ERP system has some limitations and inadequacies. An in-depth study is being implemented in this research to identify and categorize selection factors for ERP. The degree to which an ERP system meets the organizational requirements is also embedded in the model and discussed. A comprehensive weighted multi-criteria decision-making model is using to evaluate the alternatives and rank them. The model proposed to select the most appropriate ERP system for the organizations is practical and quite simple in real world problems.

Analysis of multi-criteria decision making, or MCDA, is a valuable tool that can be applied to many complex decisions. It is most applicable in solving problems which are characterized as an alternative. It has all the features of a useful decision support tool: it helps us focus on what's important, is logical and consistent, and is user friendly. MCDA at its core is useful to:

- Dividing the decision into smaller, more understandable parts
- Analyzing each part
- Integrating the parts to produce a meaningful solution

When used for group decision making, MCDA helps groups talk about their decision opportunity (the problem that needs to be solved) in a way that allows them to consider the values that each view as important. It also provides people with a unique ability to consider and speak among alternatives on complex trade-offs. It helps people think, re-think, query, adjust, decide, rethink, test, adjust, and ultimately decide.

MCDA Table

Weight	0.20	0.15	0.15	0.10	0.10	0.15	0.15	
Options/ Criteria	Price	Implementation Time	Users Satisfaction	Market Share	Number of Users	Regular Systems Update	Customisation and Workflow Management	Total
Sap s/4 Hana	5	7	9	9	7	7	7	7.1
Oracle NetSuite	7	5	5	5	5	5	5	5.3
MS Dynamics 365	7	7	5	3	3	5	5	5.3

- 1-Not at all satisfied
- 3-Not so satisfied
- 5-Somewhat satisfied
- 7-Very satisfied
- 9- Extremely satisfied

4.5 Optimal solution

From weighted sum multiple criteria decision making its clear that SAP S/4 HANA has the higher value in total. From above mentioned criteria it's clear that SAP S/4 HANA is very satisfied. For chosen company IDLC, SAP S/4 HANA is the optimal solution. From the discussion of literature review and practical part its very clear that SAP S/4 HANA is the best for IDLC company.

5 Results and Discussion

Implementation in the IDLC company will have a big impact in their activities including revenue and expenses. It will also have impact on its employee activities and all activities under selected ERP will be faster than before. Moreover, gradually its profit will increase near future.

5.1 SWOT Analysis:

All key issues affecting the proposed idea should be considered before implementing SAP S/4 HANA. Analysis should also be used for assessment of such implementation. Strengths and weakness are internal and come from the features and features of the service. While there are external opportunities and threats, this refers to factors such as market, competitors, legislation, technological development etc.

5.1.1 SAP s/4 HANA:

<p>Strengths:</p> <ul style="list-style-type: none"> • Focus on research and development • Diversified geographical spread • Strong position in business software • Robust, tailored to different industries • History and customer trust/loyalty • Excellent inventory management capabilities 	<p>Weakness:</p> <ul style="list-style-type: none"> • Lack of diversification • Declining margins • Expensive • Complicated to implement
<p>Opportunities:</p> <ul style="list-style-type: none"> • Strategic partnership • Growing business intelligence platform market • Growing SaaS market, move into the web-based SaaS model 	<p>Threats:</p> <ul style="list-style-type: none"> • The economy, global economic slowdown • Foreign currency risk regulations • Undetected product errors and security shortcomings • Targeted or niche solutions often provide better capabilities and are much less expensive • Newer entrants can leverage web 2.0 technologies to integrate with other solutions, making a huge ERP system less of a necessity.

IDLC can use SAP S/4 HANA in their accounting role and in credit. When consumer knows how to use it, it is very simple and easy to use. The flexibility and functionality are greatest. Nobody will ever want to use another finance program after using SAP S/4 HANA. What's most fascinating about SAP Manufacturing was how good it was to adapt to this platform for new companies and employees. It has really made major improvements in the overall performance of so many businesses.

Although smart steps were acquired by SAP from Ariba, Concur, SuccessFactors and other outlying systems, S/4HANA is still not well incorporated into these systems. The organization is struggling through the way the systems are implemented in the course of deploying these technologies and is making much of it as they go. In the way of off-the-shelf integrations, this leaves much to be desired.

The fact that the platform is a rewrite combined with the advanced technologies built into the software means that the magnitude of change will be even greater for any organization than most ERP implementations. Examples of how to ensure a successful implementation of SAP S/4HANA are careful and thorough attention to people, organizational design, impact change, readiness to change and other key components of change.

Because it is a fairly new product, suppliers, system integrators and IDLCs' own internal staff most likely have very little knowledge of the software. Even so-called SAP implementation experts have just a limited number of S/4HANA reference points. This renders preparation and planning much more critical than most ERP implementations.

SAP system integrators and associates are beautiful vendor. They are skilled at convincing organizations that the most complex needs will be solved through their solutions. IDLC must understand that these players have given economic opportunities for IDLC to utilize as much SAP functionality as possible, regardless of whether it is acceptable or not. It is important for IDLC to take control of their project and leverage their organization's best technology.

6 Conclusion

The main aim of the thesis was to investigate the best ERP system for IDLC company in Bangladesh. Information about ERP systems and their financial accounting modules was analysed by reviewing existing literature in this field. In the practical part current situation of ERPs was described and overview of how the system can be implemented in IDLC and its capability was discussed.

In addition, an overview of selected ERP was explained. Why SAP S/4 HANA should be implemented and what is the risk for implementing SAP S/4 HANA was also described.

Companies who are already switching to SAP S/4HANA will receive the benefits faster, and those benefits can be significant. Waiting also raises some threats. SAP drops support for older models by the end of 2025. As that date approaches, expect growing competition for implementation talent. There are so many businesses trying to get their data works together. SAP S/4HANA is an opportunity for those with several instances of SAP or other ERP systems to bring the entire organization into financial alignment around a validated set of streamlined processes.

Such ERP system was proposed for IDLC company. If, they can implement their new ERP system (SAP S/4 HANA) on time and if they can run their new ERP system successfully, IDLC can achieve their goal.

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7 Appendix

List of Supplements...